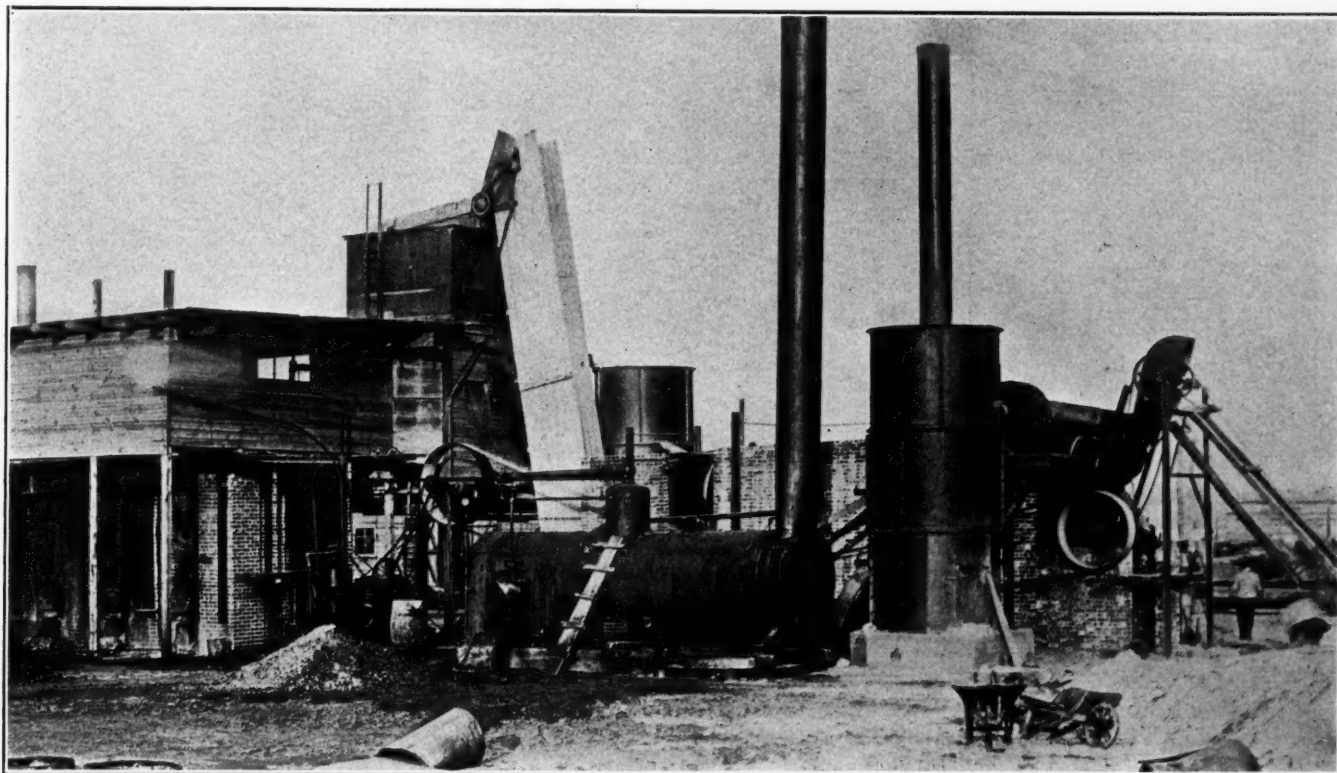


Municipal Journal

Volume XXXV.

NEW YORK, NOVEMBER 20, 1913.

No. 21



PLANT OF CLEVELAND TRINIDAD PAVING COMPANY AT FLUSHING, N. Y.

FIFTH AVENUE REPAVING

Asphalt Mixture Hauled Ten Miles from Semi-Portable Plant in Five-Ton Auto Trucks—Detailed Costs of Trucking—Description of Asphalt Mixing Plant—Large Concrete Mixer Used.

Interesting facts of street history as well as novel methods of construction are developed in the course of the repaving of many of the principal streets and avenues of New York City, which has been going on this year. Recently in this journal there was described the growth of traffic on lower Fifth avenue necessitating a wider roadway, and how encroachments on the sidewalks had been removed to make the street widening possible. On another section of the avenue, between Eighteenth and Nineteenth streets, different conditions prevail. On the west side of the street is Central Park, hence no increase of traffic has originated there. The other side of the street is occupied for the most part by large residences, most of which are older than the pavement that is being removed. Through traffic has increased, but the increased speed of auto traffic has taken care of that. There is, therefore, no urgent need for increasing the width of the roadway and it has been left forty feet as before.

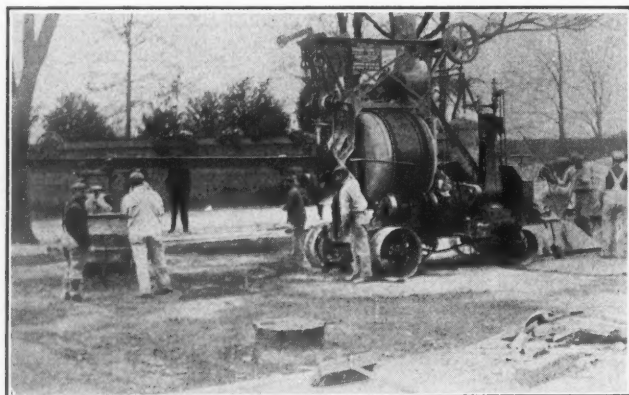
More than fifteen years ago the street was paved by the Barber Asphalt Paving Company with Trinidad as-

phalt. The construction was peculiar. The avenue had been paved with granite blocks on a concrete foundation some ten years or more before. The blocks were in good condition, but changed standards of public taste required a smoother and quieter pavement. In the reconstruction at that time it was considered as most economical to relay the granite blocks on their flat side, bedded in sand, leaving the old concrete foundation as it was. The blocks were covered with binder and top in accordance with the specifications then prevailing.

In the present reconstruction the blocks are removed and about six inches of new concrete placed on top of the old foundation. The stone blocks are used for gutters and miscellaneous work in outlying sections. Marked improvement is being made in the curbing, 6x20-inch granite curb being substituted on the east side of the street for the worn bluestone. Some of the granite curbing comes in pieces as much as 14 ft. in length. It is all very fine stone, much superior to the bluestone it replaces.

Gravel is being used for the concrete aggregate. This

material, as well as the sand, is delivered alongside docks and unloaded by stevedores and hauled to the street by contract. The Cleveland Trinidad Paving Company, contractors for the work, are using a Koehring 22-cu. ft. street paving mixer for the work. It is said to be the largest machine of its kind that has ever been used for paving purposes on New York streets and is doing work very satisfactory to the officials in charge and to the contractor. The concrete is well mixed and the work is done rapidly in an orderly manner, without any appearance of undue haste or confusion. There are about thirty names on the payroll including foreman, engineer



MIXER DISCHARGING CONCRETE.

and night watchman. The average number of square yards of surface laid per day of eight hours is 1,240. Common labor is paid \$1.75 for eight hours. In concrete gangs there are always a number of men who get more than the minimum. Moreover there is the cost of moving the machine to and from the work to be considered, and fuel, about half a ton of coke a day being used. A fair estimate of the cost of mixing, including allowance for interest and depreciation on the machine, would perhaps be seven cents per square yard. This is probably three or four cents per square yard less than the cost of hand work.

The organization for handling the asphalt work of the Cleveland company is an unusual one for New York, and has extraordinary mobility. From an inexpensive semi-portable plant in Flushing, L. I., the company has been able to carry and lay sheet asphalt or asphaltic concrete in every borough of the city, even as far away as Staten Island. The company owns five 5-ton automobile trucks and hires as many more as are needed to haul the ordinary product of the plant.

The distance from the Flushing plant to Fifth avenue, between 80th and 90th streets, is about ten miles. Both five-ton and seven-ton trucks are being used. The five-ton trucks make regularly four trips per day and the seven-ton trucks three trips. Sometimes two or three of the five-ton trucks make five trips per day. The amount hauled per day is 300 batches of 1,000 pounds each—150 tons. Teams would make only one trip per day at a cost of \$7.50 and would haul six batches or three tons. To haul a day's run of material would require fifty teams and the cost of hauling would be $\$7.50 \div 3 = \2.50 per ton. Figuring the cost of an automobile truck at \$22 per day as given in the detailed estimate below, the cost for a five-ton truck on the basis of four loads is as follows: $4 \times 5 = 20$ tons; cost of truck $\$22 \div 20 = \1.10 per ton. The difference in cost between \$1.10 for automobile and \$2.50 for horse trucking is surprising. Probably the conditions are those which are most favorable for automobile hauling and least favorable for horse trucking. Moreover, it is to be noted that the figures of horse trucking are contract prices: That

is, the teams are not figured as belonging to the contractor. The automobile trucking is figured as if all trucks belonged to the contractor. Furthermore, a contractor depending on teams would not undertake to do the work which the Cleveland company is doing from so remote a location.

The detailed cost of operating the 5-ton auto trucks on this haul is estimated as follows:

ESTIMATE ON OPERATING COST OF 5-TON MOTOR TRUCK.

Assumptions.

Weight of load, tons.....	5
Length of trip, one way, miles.....	10
Number of round trips per day.....	4
Tons delivered per day.....	20
Miles per day.....	80
Working days per year.....	250
Miles per year.....	20,000

Investment.

Chassis with full equipment.....	\$4,000
Dump body	500

Total\$4,500

Cost Per Year.

Fixed Charges.

Interest at 6 per cent. on \$4,500.....	\$270
Fire insurance $2\frac{1}{4}$ per cent. on 80 per cent of value.....	90
	\$360.00

Garage and Wages.

Garage at \$10 per month, nominal.....	\$120
Driver at \$20 per week, for 52 weeks....	1,040
	1,160.00

Depreciation.

1 per cent per thousand miles on cost, less tires (\$4,125) or 20 per cent per year	825.00
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Operating.

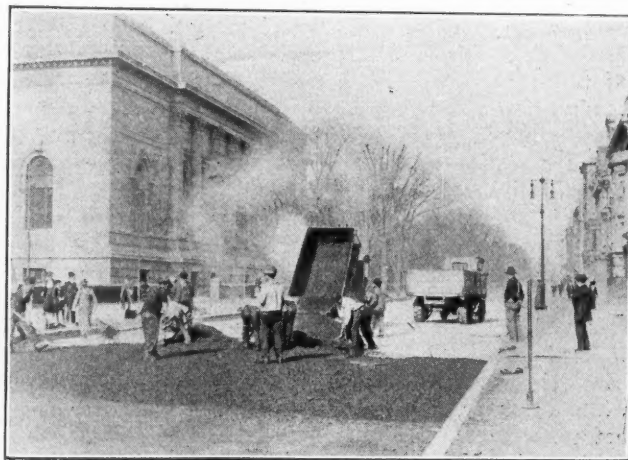
Repairs and maintenance, per mile....	\$0.0500
Tires, per mile.....	.0500
Fuel (assuming 4 miles travel per gallon, and gasoline at 20 cts. per gallon) per mile0500
Oil and grease per mile.....	.0120

Total, per mile.....\$0.1620

Which, with 20,000 miles travel per year amounts to per year..... 3,240.00

Total cost per year.....	\$5,585.00
Total cost per day.....	22.30
Total cost per mile.....	.28
Total cost per ton mile.....	.11
Total cost per ton delivered.....	1.12

The Cleveland company's plant has some interesting



DUMPING AND SPREADING BINDER.

features. In the first place, as New York plants go, its cost is very low in comparison with its capacity. The most expensive piece of machinery in it is the Cummer dryer of the stationary type, set in brick. The ground plan of the plant is that of the Cummer semi-portable plants; that is, as you face the plant looking towards the feed end of the dryer, the dryer is on the right and the engine and boiler on the left. Back of the dryer is the mixing platform and back of the engine and boiler are the four asphalt tanks.



AUTOMOBILE TRUCK DUMPING IN FRONT OF NEW YORK PUBLIC LIBRARY.

The asphalt being used is "Montezuma," a Mexican product refined by the Warner-Quinlan Asphalt Company.

Some plant details may be mentioned. The elevators are of Jeffrey make, steel buckets for cold and malleable iron for hot material. A Westinghouse air pump forces the asphalt from mixing to working tank and from there to the measuring bucket. Stone and sand are weighed into the mixer, which is an Iroquois. The same mixer is used for surface and binder without changing teeth. The bin for sand and stone is divided by a partition into two parts, one for sand and one for stone. Both materials are delivered into a single screen, the sand going into the first section of the bin and the stone into the second. This is a great convenience and time saver in changing the run from binder to top. In fact, stone and sand can be heated together and a mixed load of binder and top sent out if it should be needed for patching. The mixer teeth are of iron cast in a foundry in Wichita. Western cast-iron is all made of scrap iron and has better wearing qualities than iron made partly from ore.

ANAHEIM SEWAGE FARM.

The city of Anaheim, in southern California, owns a farm of 20 acres upon which it disposes of the effluent from a septic tank which receives 40 per cent of the sewage of the city. The septic tank is located at the highest point of the farm. About one-half of the area of the farm is at present under cultivation, five acres being now in corn and the other five planted to alfalfa. When the city purchased the land it was practically worn out, but after one year of operation of the septic tank it has been converted into a valuable property. This year the corn yield will be 80 bushels to the acre or 400 bushels from the five acres. The alfalfa is thriving and five cuttings of this a year are made, totaling 20 tons per year from the 5 acres.

The remaining 10 acres are at present covered with eucalyptus trees, but these are being removed and

grubbed out as rapidly as possible and the ground planted to other crops. As soon as possible the sewage from the remaining portion of the city will be brought to the septic tank and the effluent used to irrigate the other 10 acres of the farm. It is estimated that the total flow will then be about 775,000 gallons per day.

The 20 acres of land cost the city \$11,000 and the tank was constructed at a cost of \$3,700. The tank is 25 ft. by 35 ft. and 12 ft. deep and is covered by a roof buried under a mound of earth 3 ft. higher than the surrounding land. Although the sewage farm is only about a half mile west of the limits of the city, it is said that there has been no nuisance created by it.

CONTROL OF SIDEWALKS

Inspection of Work by Municipal Officials—Municipal Construction and Maintenance Cheaper and More Effective Than Private.

(Continued from page 668)

4. INSPECTION.

In Binghamton, N. Y., two inspectors are employed to look after sidewalk work, but during the rush season it is impossible for them to cover the work and some poor work is done. "My opinion is that the inspection of sidewalks is a farce unless you have enough inspectors so that an inspector can stay with one gang of walk layers the entire season, which would be an expensive method. We now have a proposition which the Department of Public Works is considering putting in force, and that is to put the walks under a two-years' guarantee, label each walk with the date and put the contractor under bond."

In East Orange, N. J., owners are given thirty days in which to repair sidewalks, and on failure to do so the city makes repairs and charges the cost in the next tax bill. The execution of this is in the hands of the city engineer. One street inspector makes occasional rounds and reports walks needing repairs, the city engineer communicates this to council and he is directed by council to have the repairs made. Notices are sent to the property owners and thirty days thereafter a second inspection is made by the inspector, and those not then found in good condition are repaired by the city gang.

In Wilkes-Barre, Pa., sidewalk work is looked after by the commissioner of highways.

In Wilmington, N. C., the city engineer is required to sign a certificate that the lines and grades and specifications have been followed in the construction of the sidewalk in front of his property. If this signature is refused by the city engineer, the owner can refuse payment to the contractor, and the city can rebuild the walk if or whenever it desires and charge the cost to the owner.

In Charleston, S. C., the city pays half the cost of the sidewalks. The city engineer appoints an inspector, whose time is figured in, in calculating the cost of the work.

In Lima, Ohio, sidewalks are constructed under the supervision of the city engineer, under whose direction is an inspector of sidewalks and sewers who is required to see that all sidewalks are constructed according to specifications. As he has supervision over all sewer tamping, is special inspector on the few jobs of sewer construction, looks after the few jobs of sidewalk inspection that the city is doing itself and also inspects construction work being done by private parties, it is self-evident that sufficient inspection of sidewalks could not be given even though he had one assistant. In his latest annual report, the city engineer recommends that a city inspector be appointed for each sidewalk job.

In Indianapolis, Ind., there is "no trouble from this source as, whether work is done under private or public contract, it is done under the supervision and specifications of the city engineer."

The city engineer of Moline, Ill., has nothing but consolation to offer the member making the sidewalk inquiry. "I think all city engineers in the small cities of Illinois are up against about the same condition."

The only reply from Iowa states that "enforcement of the sidewalk ordinance is council's business in Iowa and hence is not attended to."

In Grand Rapids, Michigan, there is an employee under the department of public work known as "sidewalk and pole inspector" "who relieves the engineering department of a considerable amount of work, and a fairly good enforcement of the sidewalk ordinance is secured without undue expense."

At Atchison, Kansas, the enforcement of the sidewalk ordinances is the duty of the street commissioner and, although performed very satisfactorily, is found by him to be a very disagreeable and annoying task.

In Manhattan, Kansas, the engineer is supposed to make a perfect inspection of all sidewalks, but when there is a great deal of work this is found to be impracticable. When enough work is being done to justify an inspector, one is kept going from one job to another, but when sidewalk work is slack, an occasional job is done without any inspection, except such as the property owner may do at the request of the engineer. The engineer tries to have the citizens generally know how many sacks of cement should be used for every 50-foot stretch of sidewalk. As a general thing, the work done has been very satisfactory.

In Holland, Michigan, the city engineer must certify, by endorsing the property owner's permit, that the material used and the manner of work done are approved by him and the work has been completed in accordance with his line and grade.

In Fort Smith, Ark., an inspector is employed under the direction of the engineering department to look after sidewalk construction.

In Kansas City, Mo., the city engineer is responsible for the proper construction of all sidewalk work (only concrete sidewalks are permitted) whether this be done by private parties or by public contract. Repairs to construction work are under the supervision of the superintendent of street repairs. All is at expense of abutting property owners.

In San Angelo, Tex., each property owner must take out a permit before constructing a sidewalk, for which the city charges a fee of \$2.50 for each 25-foot business lot or each 50-foot residence lot, with a 50-cent charge for each additional lot. Upon presentation of this permit to the city engineer he is required to give the necessary grades and alignment and furnish an inspector to see that all requirements regarding specifications and grades are complied with. Any property owner not complying with this regulation is liable to have to rebuild his curb or sidewalk if it has not been properly constructed.

The Austin, Tex., engineering department has under its direction a special sidewalk inspector whose business it is to see that the work is in compliance with the city specifications and conforms to the engineer's lines and grades.

In Santa Barbara, Cal., permits for sidewalk, curb and gutter work must be taken out by property owners, and inspectors are employed whose sole duty it is to look after this work which must be done to their satisfaction or it is ordered out.

In comment upon these replies, the author would call

especial attention to the arguments in favor of the method first described—that of treating sidewalk work in the same way as roadway work; and this method of treatment should, in his opinion, apply to the designing and general control as well as to the mere construction. By this he means that the material to be used and the time of construction should be determined by the department of highways or city engineer, and that the work should be put in an entire block at a time and not piecemeal.

It seems to us inevitable that most of the highway construction which is performed in small sections scattered over the town cannot receive as effective supervision by the city engineer as could a few contracts each covering an entire block or more. There certainly would seem to be little question that construction in 25 or 50-foot sections must be quite a little more expensive and in many respects less satisfactory than if the entire block were constructed at one time. In addition to this, even where the work is well done, the patchy appearance of a street where old and new sidewalks alternate, and indeed where brick, flag and concrete may all be found on one block and in various stages of repair, is far from pleasing to the eye and is unpleasant for the pedestrian.

The sidewalk is as fully a part of the public highway as is the roadway, so far as its use is concerned. It is as free to the general public and is (or should be) no more used for private purposes by the abutting owner, and we can, therefore, see no reason why the two should receive different treatment.

At a matter of fact, in too many cases little attention is paid to the sidewalk. Volumes are written about roadway pavements, but only an occasional page about sidewalk paving; but yet to one person who uses the roadway there are probably ten who use the sidewalk. The additional property rights or quasi-ownership which in some cities are held by the abutting owner over the sidewalk need not interfere with the municipal control any more than they interfere with roadway paving in those states or cities where such ownership is construed as extending to the center of the highway.

And the logic of the argument would include also maintenance, including street cleaning. In German cities the street cleaning gang cleans the sidewalks as well as the roadway, in many cities flushing them down with hose during the night at the same time that the roadway is similarly treated. In large cities a considerable proportion of the dirt on the sidewalks is blown there from the roadway, and the remainder is carried or thrown there by the public at large which uses the sidewalk (except for store sweepings or other dirt thrown from the abutting premises in violation of the city ordinances). It would therefore seem to be as much the city's business to remove this dirt from the sidewalks as to clean the roadways. An additional argument in favor of this is the fact that the dirt from the sidewalk is very apt to be blown or swept on to the roadway shortly after the latter has been cleaned, thus to some extent undoing the work of the street cleaning gang; which would not have occurred had the entire street from property line to property line been cleaned at one operation.

Considering, however, merely the point of view of the cost of sidewalk construction, there would seem to be little reason to dispute the following statements: First, an improperly constructed sidewalk will be more expensive in the long run in that it must be renewed more frequently than one properly constructed. Second, inspection adequate to securing proper construction is very expensive when the work is done in small jobs of 25 or 50 feet. Third, construction in such small jobs is more ex-

pensive to the contractor and consequently to the property owner or city. Fourth, not only would it appear reasonable, but it has been demonstrated by experience, that the lowest prices can be obtained for sidewalk work by letting the contract for the work of an entire season to one or two contractors, with the understanding that no stretch of work of less than a block will be ordered.

MECHANICSVILLE WATER WORKS.

The water department of Mechanicsville, N. Y., expects, with the enlarging of certain lines of pipe, the thorough cleaning of the settling pond, the recharging of the filter beds with Cape May sand and the purchase of a larger pump, to double its capacity and filter all water used. A recent measurement shows the average consumption to be 2,000,000 gallons a day, and the maximum 2,300,000 gallons.

The department is considering the purchase of a 3 million gallon pump to meet the following specifications: Water pressure, minimum, 60 lbs.; maximum, 100 lbs. Pumping station, $2\frac{1}{2}$ miles from town and 50 ft. above the lowest point, average 30 ft. Size of main, 16 ins. Water to be pumped into main through about 25 ft. of 10-in. pipe.

For the above information we are indebted to Oscar C. Abel, the superintendent of the water department.

FIRE BOAT AT MARINETTE.

Although the use of fire boats is generally confined to the larger cities, Marinette, Wisconsin, is one of the few smaller ones which can benefit by the services of one. The fire department does not own this boat but the mill companies and the fire department together operate it, the companies owning the boat and the fire department paying half of the expense of maintenance. This boat can throw three streams and carries 900 ft. of $2\frac{1}{2}$ -in. hose and 100 ft. of pressure hose. For this information we are indebted to J. Hodgins, chief of the fire department of Marinette.

ST. LOUIS CENTRIFUGAL PUMPS

Steam Turbine Driven Forty-Two-Million-Gallon— Reason for Choosing This Kind of Pump—First Cost and Yearly Cost Lower.

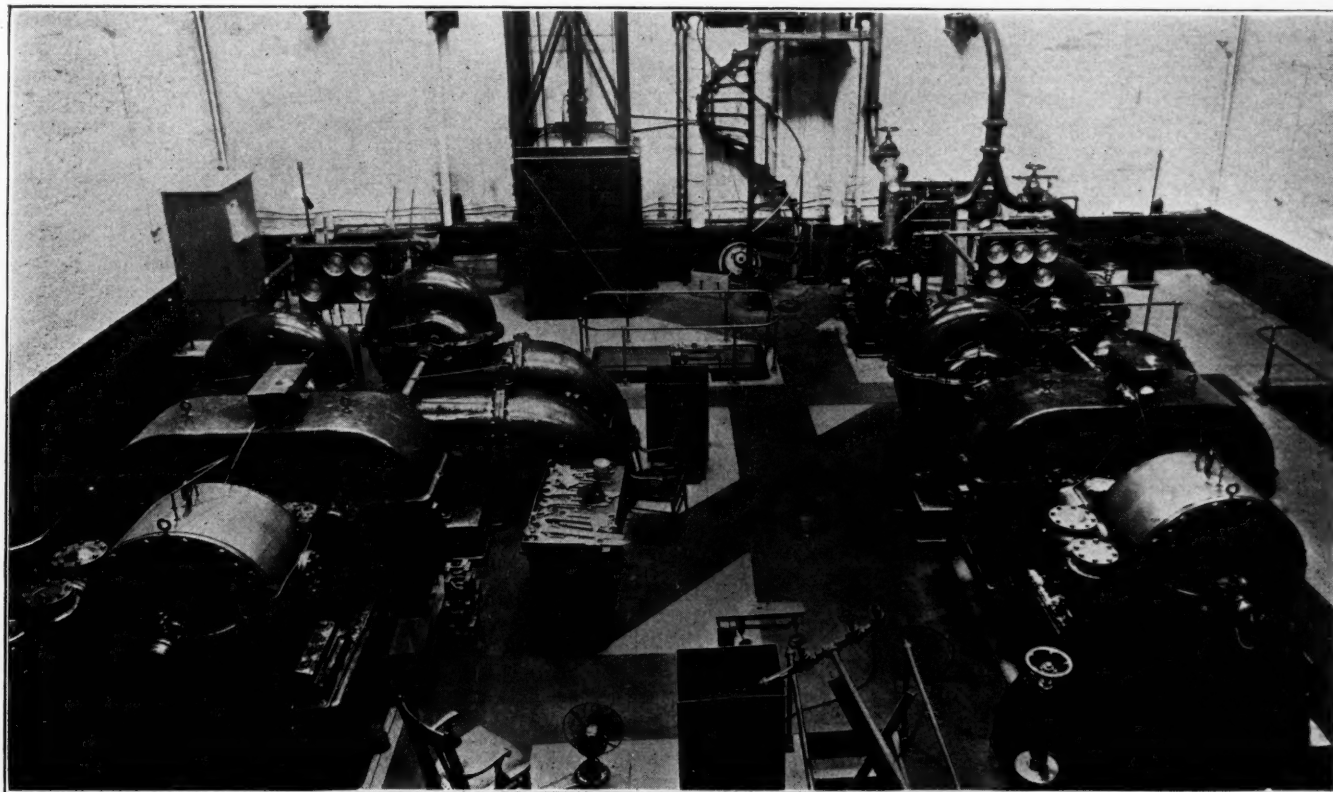
In a paper read before the Engineers' Club of St. Louis, Leonard A. Day, chief mechanical engineer of the St. Louis Water Department, described the new steam turbine driven centrifugal pumps recently placed in service by that city, prefacing the technical description of the turbines and pumps with the following statement of considerations which led to the adoption of this style of pump:

"The Chain of Rocks pumping station, located about seven miles north of the Merchants' bridge, is the low service station for the city of St. Louis. The water is pumped from the river at this station into storage basins, where it is clarified, thence flowing by gravity to three high service pumping stations, where it is delivered into city mains under pressures varying from 80 to 125 lbs. per sq. in.

"The pumping equipment at the Chain of Rocks station originally consisted of two Worthington direct acting compound pumping engines, each having a capacity of 20 million gallons in 24 hours, and four Allis-Chalmers crank and fly-wheel compound pumping engines, each having a capacity of 30 million gallons in 24 hours. The safe working capacity of this station having reached its limit, it was decided to replace the 20 million gallon Worthington pumps with pumps of greater capacity.

"It is only in recent years that the attention of water-works engineers has been directed toward centrifugal pumps. Their low first cost, small maintenance charges, simplicity and compactness, compel instant recognition.

"In considering relative values, not only first costs, but operative, maintenance and interest charges as well must be taken into account. Progress in the design of centrifugal pumping units has reached a point where serious doubt is created as to the wisdom of invariably installing enormous piston pumping engines, for in in-



NEW CENTRIFUGAL PUMPS, CHAIN OF ROCKS. ST. LOUIS WATER WORKS.

stalling large pumping engines entailing a considerable expenditure it seems wise to consider not only the possible life of the machinery but its probable duration in view of present developments. It is true that the high-duty steam pumping engines, with capacities for pumping large quantities of water, are superior to turbine-driven centrifugal pumps in economy. However, a careful comparison between the two types of pumping units led us to choose the turbine-driven type of pump.

"Two 40 million gallon reciprocating pumps for this service would have cost approximately \$230,000, or \$115,000 each. The duty in foot-pounds of work per thousand pounds of steam of the reciprocating type of pump would have been approximately 150 million. Two 40 million gallon turbine-driven centrifugal pumps cost \$55,000, or \$27,500 each, with an average duty of 94 million. The average maintenance costs of reciprocating units, according to station records as kept on the Allis-Chalmers 30 million gallon pumps, is \$780 each per year. It is safe to assume a maintenance cost not exceeding 2 per cent of cost of turbine pump per year, or \$550 each per year. The operating charges are considered the same for each type of pump.

"In capitalizing the investment the following formula was derived:

$$\frac{A \times W \times H \times P}{D} + F(i + d) + L + M = C$$

in which

A = total number of gallons pumped per year.

W = weight of a gallon of water.

H = average total head in feet pumped against.

P = cost of steam per 1,000 lbs. (13.4 cents).

D = average duty in foot-pounds per 1,000 lbs. of steam.

F = total investment.

i = rate of interest on investment.

d = rate of depreciation.

L = yearly cost of operating labor.

M = yearly cost of miscellaneous expenses of operation.

C = total cost per year.

"Solving for C with both types of pumps we obtained a difference of \$13,000 per year in favor of the turbine-driven pump, which means that in a little more than four years the centrifugal pumps will have paid for themselves. It is proposed to install a third turbine-driven pump of 40 to 50 million gallons capacity in this station in the next two years in order to bring the safe working capacity up to 150 million gallons per day, and if reciprocating pumps were necessary it would necessitate the erection of an additional building owing to the space they require. Needle ice suspended in the river water during the winter months and sand throughout the year is another very important reason for installing centrifugal pumps at this station, as this type of pump is admirably adapted to handle water under these conditions, with practically no trouble.

"In July, 1911, a contract was awarded to the Dravo-Doyle Co., of Pittsburgh, for two De Laval 525 h.p. steam turbine-driven centrifugal pumping units, each to have a capacity of 42 million gallons in 24 hours, working under a total head, including friction in the suction and discharge pipes, of 46 feet, and a capacity of 40 million gallons under a total head of 56 feet and a capacity of 30 million gallons under a total head of 63 feet. The 46 and 63-foot heads are the minimum and maximum heads at this station due to the different stages of the river throughout the year."

Following the description in detail of the construction of the turbines and pumps, Mr. Day concluded his paper as follows:

"Both of the pumping units were tested at the contractor's shops. The shop tests were conducted with a suction and discharge of each pump arranged independent of each other, and the quantity of water was measured by the use of calibrated nozzles and pitot tubes. The first unit, when pumping at the rate of 31,420 gallons per minute, or 45.25 millions per 24 hours, under a head of 57.19 feet, developed a duty of 111,600,000 foot-pounds. The second unit, when pumping at the rate of 24,735 gallons per minute, or 37.05 millions per 24 hours, under a head of 61.45 feet, developed a duty of 101,000,000 foot-pounds.

"A test on our foundations was run on the first pumping unit on April 3, 1913, and the following results were obtained: Head, 53.06 feet; delivery, 42,900,000 (29,800 gallons per minute); duty, 96,800,000. On April 4, 1913, the following results were obtained: Head, 55.46 feet; delivery, 39,040,000 (27,100); duty, 93,800,000. The delivery was measured by a Venturi meter after being checked against basin measurement.

"The original impellers, i. e., the impellers that were in the pumps when tested in the contractor's shop, were designed to work with a suction lift of 10 to 12 feet, and were designed to show maximum efficiency under this suction condition. The pumps, however, when placed on our foundations, operated under a minimum suction head of two feet. This necessitated a change in the design of impeller, which consisted in slightly changing the vane angles and reducing the number of vanes to six instead of eight, also increasing the diameter of the impellers slightly. After changing impellers, a test was run on July 21, 1913, and the following results were obtained: Head, 58.86 feet; delivery, 38,480,000 (26,720); duty, 104,100,000. The head was then changed to 62.15 feet with a delivery of 36,458,333 (25,300), and a duty of 101,600,000 foot-pounds was obtained."

NEW YORK HIGHWAY CONTRACTS.

John N. Carlisle, commissioner of highways of New York state has directed the new division engineers to go carefully over the roads which are to be constructed next year, so that the plans and estimates may be revised in time for the first letting which will take place as soon as the highway specifications now under preparation are adopted. It is believed that the specifications prepared by the Highway Department this year will be a standard highway specification which will be adopted in practically all of the other states where there is a large amount of highway construction.

By having the engineers who are to construct the roads go over them at this time of the year, before the snow is on the ground, it will enable them to become familiar with the stone supply and those other matters which are so necessary in highway construction and it is believed that this advance study of conditions will do a great deal toward eliminating the supplemental agreements which have been so necessary in past highway work.

Commissioner Carlisle is confident that he can begin advertising for bids for highway construction early in December, and it is his purpose to receive bids on from thirty to forty roads each week until all the roads to be constructed next year are under contract.

By having weekly lettings instead of having a large number of roads advertised for one letting, there will be a more even distribution of contracts among the contractors, so that no one man or firm will get more roads than can be taken care of and it is believed that this will also result in lower prices. These contracts will all be let so that the material can be on the road this winter and the construction work can begin as soon as the frost is out of the ground in the Spring.

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CHANGE OF ADDRESS

Subscribers are requested to notify us of changes of address, giving both old and new addresses.

Contributions suitable for this paper either in the form of special articles or of letters discussing municipal matters, are invited and paid for.

Subscribers desiring information concerning municipal matters are requested to call upon MUNICIPAL JOURNAL, which has unusual facilities for furnishing the same, and will do so gladly and without cost.

NOVEMBER 20, 1913.

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Regulating Vehicle Sizes.

It has been maintained by truck manufacturers and users that there should be no limitations placed upon the development of these vehicles by city, county or state governments, but that if any class of vehicles causes excessive wear or damage to roads the remedy is to change the methods of road construction; that to do otherwise is to place restrictions upon the natural development of traffic and the handling of goods, thus interfering with the realizing of the fullest economy in this direction.

There are at least three ways in which trucks or other vehicles may offend from the point of view of those responsible for the maintenance of roads and streets and regulation of traffic: by being too heavy, thus crushing the surface material or breaking down the foundation; by carrying spikes, chains or other projections on the driving wheels which break up the surface, and by too great size. To say that no limits may be placed upon any of these characteristics is indefensible, in our opinion. There may be certain roads where conditions are such that even 20-ton trucks, 10 feet wide and 25 feet long, should not be barred. But to say that every road should permit such to traverse it and should provide for it in construction is to burden the country with an expense vastly in excess of any benefit

which would result to the public at large from even the general adoption of such heavy trucks, while the benefit from their use by a few firms only would be inappreciable to the public.

In the report recently submitted to the highway commissioner of New York state by a board of consulting engineers it is recommended that he prescribe regulations placing limitations upon the size, weight, width and character of tires; and he has already published a regulation concerning the cleats on the wheels of traction engines and other heavy vehicles. It seems certain that all states and cities must sooner or later make some rules to protect their pavements from destruction.

The matter of size would seem to be even more important in the city street than on the highway. We have seen a truck 18 feet long backed up to the curb of a 30-foot roadway, overhanging the sidewalk 5 feet and extending into the roadway 13 feet. A few such backed up to both curbs and approximately opposite each other would completely block a roadway and greatly interfere with the sidewalk traffic. The remedy, they would say, would be to widen the street. But, assuming this is done all over the city at enormous expense, what guaranty is there that a few years will not see sizes of trucks increased proportionately? There would seem to be no reason why a truck the size and weight of a freight car could not be constructed; and, given sufficient trucking to be done between a given building and the freight yards, why it should not prove a money saver. Must it therefore be permitted? It is absurd to think so. The line must be drawn somewhere, and it is time to give the matter serious consideration before public interests are overstepped by the rapid development of the motor truck.

Physical Records and Work Units.

We quote with a hearty "Amen" the following paragraphs from the introduction to the recently published special report of the Census Bureau dealing with the "General Statistics of Cities."

Within the last few years a large number of cities have installed new and scientific systems of accounts for recording financial data. In these accounts receipts and payments are classified with reference to the source of receipt and the object of payment. The adoption of such a classification is a long step in the right direction, but the most beneficial results can not be realized without the installation of complete physical records, or records of work done or services performed supplementing and correlating with the records of expenditures; since it is only when the information contained in the physical records is correlated with that of the financial records that it is possible to determine the efficiency and economy with which the services are conducted.

The correlation of physical and financial data is, however, possible only by the prior establishment of common units of service in the two records. This fact is at present but seldom fully recognized. In many of the cities installing these financial accounts the physical and general records are left in confusion, and as a result the financial accounts and reports are of no very great administrative value. This condition will continue to exist until units of work or service are adopted and clearly defined for the physical and general records and the financial accounts are correlated with them. Further, both financial and physical records should be uniform as between city and city to make the experience of one city of any value to the officials of other cities, since without such uniformity the expenses of one city can not be compared with those of another, as may be seen by

placing the expense of City A, which reports the cost of street cleaning at a given rate per mile of street cleaned, by the side of those of City B, which reports it at a specified rate per cartload of sweepings removed, or by trying to test the comparative cost of street paving per square yard in two cities if nothing is known as to the kind of materials used or method of construction in the two places.

SEWAGE DISPOSAL PATENTS.

Newark, N. J., Nov. 8, 1913.

Editor Municipal Journal:

Dear Sir: Referring to the article "Springfield Sewage Disposal Plant" in your issues of October 23 and 30, we beg to call attention to the fact that the so-called "vertical circulation" is neither new nor original with Mr. Potter, as it is an essential feature of the process set forth in our Travis and Ault (Hampton Tank) patent, application for which was filed September 13, 1910. The "adjustable weir" which he uses for the regulation of this "vertical circulation" is also embodied in another of our applications for patents and follows the lines of explanations and information given by our engineer to Mr. Potter while he was designing the Springfield plant.

We notified the Mayor of Springfield on October 25, 1913, and Mr. Potter on October 27, 1913, that the tanks at Springfield were infringement of the Cameron septic process patent and of the Travis and Ault (Hampton Tank) patent, both of which are controlled by this company, and that we should take all necessary steps to protect our rights.

We call attention to these points: that engineers and municipalities may know the facts and avoid any unintentional infringement of our patent rights.

Very truly yours,

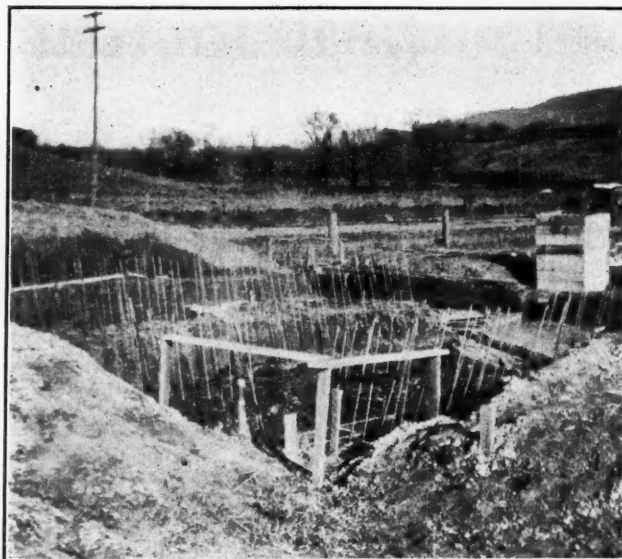
Sterilization Company.

DISPOSAL PLANT COSTS

Description of Sewage Disposal Plant at Pennsylvania State College.—Classified Statement of Amounts of Material and Labor Used.

By C. A. BINGHAM, Assoc. M. Am. Soc. C. E.

During the past season Pennsylvania State College built Contract A of its sewage disposal plant and outfall sewer, the remaining contract to be constructed during the coming season. The attached table shows the actual costs of labor and materials on the various items. It does not, however, include any proportion of general or overhead charges, office, commissary, transportation



VERTICAL REINFORCING IN SETTLING BASINS.

or general superintendence. Neither are such items listed as flange and cast iron pipes, valves, manhole covers, etc. To properly understand these data a short description of the various units will be given.

The disinfection house was 35 ft. by 18 ft. in size, with a concrete basement of 14-inch walls and a 6-inch floor. The cellar walls were 8 ft. high, the upper 3½ ft. having an 8-inch outside course of Hummelstown brownstone. The house walls were 13 inches thick and 11 ft. high, of face brick both inside and out. The roof was four pitch with slate covering and ornamental tiles on ridge and hips. The building was divided by a solid brick wall into a laboratory and a chemical room. In the latter were built the chemical dosing tanks, eight feet square and fully equipped with controlling valves, weirs, etc. The house at both front and rear entrances was provided with concrete platforms and steps and pipe railings.

The two settling basins were each 15 by 35 ft. in size, with 9-inch reinforced walls 5½ ft. high; half in clay excavation and half above grade, afterwards embanked.

The sludge bed was 24 by 34 ft. and 2½ ft. deep, and was placed between 4 and 5 ft. below natural surface. The concrete walls and floor were 4 inches thick and reinforced with expanded metal.

The Imhoff tank was 22 ft. inside diameter and 31 ft. deep, all in solid rock. The walls were 12 inches thick and reinforced with ¾-inch twisted bars. The vertical sides were 23 feet deep and the bottom was conical. The baffles were of 2-inch cypress.

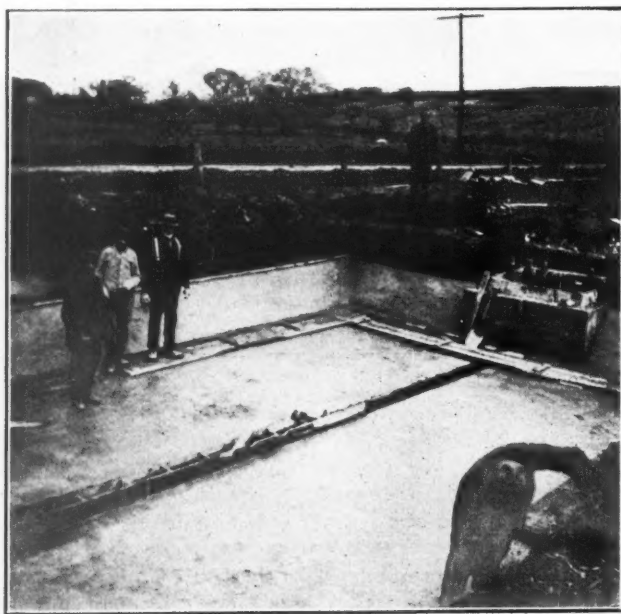
The siphon chamber was an irregular shaped tank about 7 ft. deep in rock and was heavily reinforced.

The outfall sewer was from 5 to 7 ft. deep and for the greater part had two pipes, a 12-inch for the college and a 10-inch for the borough.

The rock was for the most part an easily loosened limestone, except in spots where it seemed as hard as flint. Steam drills were used for all but trench work, and some of that work.

The clay was of a pure, stiff and tough variety which needed no bracing except in soft locations.

Contract A amounted to about \$12,000 and was built by Martin and Bingham of Harrisburg, Pa., who have also Contract B. The plans were drawn jointly by the State Health Commission and the Engineering Department of Pennsylvania State College. Prof. Elton D. Walker, M. Am. Soc. C. E. was Engineer in Charge and Frank L. Gardner was Chief Inspector.



SLUDGE BED BEFORE PLACING FILTERING STONE.

ACTUAL COST OF LABOR AND MATERIALS ON CONTRACT "A," PENNSYLVANIA STATE COLLEGE SEWAGE DISPOSAL PLANT.

Note.—This does not include overhead, commissary, or general expenses; nor valves, pipe, siphons, castings, etc.

Work Sludge beds:	Hours of labor at the several rates of wages.										Cement, 17c. under 17c.	Sand, \$2.08	C. Stone, \$1.13	Steel.	Lumber.	Misc.	Misc.	Total.	Amount.	Unit cost.
	50c.	40c.	35c.	30c.	25c.	22c.	20c.	17c.	15c.	12c.										
Excavation.....	20	16	\$5.60	\$1.50	5	...	...	...	...	44	...	...	...	...	...	...	...	\$101.19	194 yds.	\$0.52
Forms.....	...	...	11	27	...	...	...	...	...	\$77.69	\$6.40	...	...	...	...	...	...	41.33	19 "	2.17
Steel.....	...	...	3	8.10	...	...	...	...	...	5.08	...	...	...	...	...	...	...	39.16	1,202 lbs.	0.033
Concrete.....	...	...	9	17	...	...	...	...	...	1.05	...	...	...	...	...	...	...	110.88	19 yds.	5.73
Filter stone.....	2	...	3.15	5.10	...	...	\$0.40	29.04	2.16	...	\$31.02	\$19.21	...	...	...	...	...	37.45	27 "	1.39
Trough.....	3	...	...	0.60	...	...	...	...	...	...	...	30.51	...	...	...	Hdwe.	...	32.65	1 "	...
Resetting beds:	...	...	...	5.40	...	...	...	...	...	1.39	0.48	...	...	...	...	...	...	46.98	98 "	0.48
Excavation.....	26	...	46	138	...	...	...	...	...	265	...	...	...	...	...	...	...	188.54	60.3 "	3.12
Forms.....	...	...	16.10	41.40	\$3.25	...	...	...	...	33.24	3.52	...	...	...	78.03	Ex. metal	...	142.57	4,953 lbs.	0.03
Steel.....	...	...	...	7.20	...	...	...	...	...	8.39	11.04	...	...	...	74.55	...	...	354.39	60.3 yds.	5.87
Concrete.....	39	...	31	89	...	...	...	...	...	34.7	70	...	...	...	...	...	...	32.58	98 "	0.33
Back fill.....	19.50	...	10.85	26.70	...	...	...	...	...	60.70	13.39	98.70	62.40	...	...	...	...	6.48	19.7 "	0.33
Imhoff tank:	...	...	10.16	...	...	...	...	...	...	11.38	11.04	...	...	...	...	...	...	879.41	519 "	1.70
Clay excav.....	20	...	28	252	...	...	...	...	...	37	...	...	...	...	...	...	...	257.85	82 "	3.14
Rock excav.....	10.00	...	9.80	75.60	1.25	...	...	...	...	3.268	1.55	...	...	...	...	...	...	97.20	3,982 lbs.	0.24
Forms.....	20.00	...	83	83	...	...	...	...	...	571.90	20.00	...	...	...	...	...	...	454.43	82 yds.	5.54
Steel.....	...	...	29.05	24.90	...	...	...	...	...	430	11	...	...	...	104.89	...	...	266.81	1 "	...
Concrete.....	8.50	...	...	0.60	...	...	...	...	...	75.25	1.76	...	...	...	77.65	...	...	...	...	...
Baffles.....	27.00	...	140	15.30	...	...	...	...	...	54	...	...	...	...	...	...	...	...	...	...
Siphon chamber:	...	...	49.00	...	...	...	...	...	...	101	...	...	...	...	...	...	...	...	...	...
Clay excav.....	3	...	...	10	...	...	...	...	...	30	...	...	...	...	...	...	...	7.81	18 "	0.43
Rock excav.....	1.50	...	...	3.00	...	...	...	...	...	5.25	2.56	...	...	...	...	...	...	34.22	20 "	1.71
Forms.....	5.50	...	...	11.10	...	...	...	...	...	142	11	...	...	...	...	...	...	37.30	12.4 "	3.01
Steel.....	5.00	...	...	1.50	...	...	...	...	...	32	4	...	...	...	14.46	...	...	50.64	1,773 lbs.	0.029
Concrete.....	13.50	...	1.05	...	...	...	...	...	...	51	4	...	...	...	...	...	...	89.90	12.4 yds.	7.25
Screen chamber:	...	...	...	...	...	...	...	...	...	8.93	0.64	...	...	...	...	...	...	...	...	...
Clay excav.....	...	...	...	0.30	...	...	...	...	...	...	...	...	...	...	...	...	...	2.34	6 "	0.39
Rock excav.....	...	...	...	1.20	...	...	...	...	...	17	1.92	...	...	...	...	...	...	6.62	9.6 "	0.69
Forms.....	...	...	...	1.80	...	...	...	...	...	17	...	...	...	...	4.06	...	...	9.92	3 "	3.31
Concrete.....	...	...	...	2.10	...	...	...	...	...	18	0.38	...	...	...	...	...	...	23.04	3 "	7.68
Screen.....	5.00	...	...	...	...	...	...	...	...	3.60	3.15	...	...	...	Screen	...	...	20.96	...	...
Trenches	...	...	...	...	...	...	...	...	...	27	...	...	...	...	8.16	...	...	...	...	...
Clay excav.....	15	...	...	401	...	...	...	...	...	2	2.473	367	...	...	...	...	...	637.06	1,326 "	0.48
...	7.50	...	...	120.30	...	...	...	...	...	0.40	432.78	58.72	...	...	17.36	...	...	...	...	...

Actual Cost of Labor and Materials on Contract "A," Pennsylvania State College Sewage Disposal Plant.—Continued.

Note.—This does not include overhead, commissary, or general expenses; nor valves, pipe, siphons, castings, etc.

Work	Hours of labor at the several rates of wages.										Sand. C. Stone.	Steel.	Lumber.	Misc. Dr.	Misc. Dr.	Misc. Dr.	Total.	Amount.	Unit cost.
	50c.	40c.	35c.	30c.	25c.	20c.	17c.	under 17c.	under 17c.	under 17c.									
Rock excav.....	5	..	..	175	..	41	2,411	56	..	..	..	..	..	..	..	..	\$548.15	450 yds.	\$1.21
Back fill.....	24	..	32	52.50	..	5	421.18	8.96	..	..	..	..	..	..	..	..	284.40	1,720 "	0.16
Pipe laying:	12.00	..	11.20	..	..	1.00	235.90	23.62	..	..	..	..	..	..	..	..	..	..	..
8-inch	6	..	..	2	..	..	150	19	2	1	..	..	..	..	..	..	151.52	589 ft.	0.26
10-inch	3.00	..	..	0.80	..	..	26.25	3.04	2.82	2.08	..	..	..	..	..	..	70.32	2,357 "	0.32
12-inch	12	..	..	33	..	..	360	40	9.87	6.24	..	..	..	..	..	..	607.97	1,587 "	0.39
Manholes:	6.00	..	..	9.90	..	..	63.00	6.40	8.46	4.16	..	..	..	..	..	..	..	..	..
Concrete	4.00	..	..	2	..	..	50.75	..	..	..	..	..	..	..	..	..	..	..	..
Brick work.....	18	94	..	27	..	..	233	..	..	..	..	..	..	..	..	..	178.07	57 vert.ft.	3.12
Disinfctn house:	9.00	37.50	..	8.10	..	..	40.78	..	..	..	..	..	..	..	..	..	..	..	..
Excavation	8	..	4	9	..	5	105	..	..	..	..	..	..	..	..	..	27.48	69 yds.	0.40
Forms	4.00	..	1.40	2.70	..	1.00	18.38	..	..	..	..	..	..	..	..	..	230.03	60 "	3.83
Steel .....	..	..	28.35	50.70	..	0.60	46.03	2.24	..	..	..	..	99.63	..	..	..	70.74	2,860 lbs.	0.024
Concrete	24	..	10	3.60	..	..	17	0.96	..	..	..	56.55	..	..	..	..	377.78	60 yds.	6.29
Brown stone....	12.00	..	10.50	25.50	..	3	511	47	105.55	64.48	61.02	..	..	..	..	..	396.76	..	..
Brick	20	38.80	50	2.10	..	16.00	11.20	..	4.23	2.08	..	..	..	..	..	..	573.59	..	..
Cpt. work.....	40.00	..	67	30.1	..	..	77	..	..	..	..	..	266.50	..	..	..	442.73	..	..
Roofing	12.00	19.20	..	6.60	..	..	3.50	..	..	..	..	..	Lath	2.29	..	..	125.34	..	..
Plastering	2	..	..	7.80	..	5.20	..	..	..	..	..	..	Plaster	8.00	..	..	24.29	..	..
Back fill.....	10.50	..	16.45	..	..	..	102	43	..	..	..	..	..	..	..	..	51.68	69 "	0.75
Misc.	9.50	..	..	32	..	..	86	..	..	..	..	..	128.37	..	..	..	320.12	..	..
Chemical tanks:	..	..	..	9.60	..	..	15.05	..	..	..	..	..	..	..	..	..	..	..	..
Forms	4.50	..	..	3	..	..	31	10	..	..	..	..	5.43	..	..	..	17.86	4 "	4.46
Steel	13	..	..	..	..	..	1.23	..	..	..	..	4.00	..	..	..	..	5.23	194 lbs.	0.027
Concrete	6.50	16.80	..	..	..	..	7.70	2.40	5	2.5	4.52	..	..	..	..	..	50.17	4 yds.	12.54
Cpt. work.....	..	..	18	..	..	..	..	..	..	..	..	..	9.15	..	..	..	15.45	..	..
Plumbing .....	..	..	6.30	..	..	..	..	..	..	..	..	..	..	..	..	..	133.48	..	..
Erecting shanties	3.50	..	151	186	..	92	449	..	..	..	..	..	361.24	..	..	..	718.53	..	..
Cooking .....	..	..	52.85	55.80	..	13.40	78.58	..	..	..	..	..	..	..	..	..	435.05	..	..
Blacksmithing..	..	..	..	..	..	22.50	121.25	..	..	..	..	..	..	..	..	..	160.05	..	..
Equipment	25.00	..	..	..	..	51.60	146	..	..	..	..	..	..	..	..	..	418.20	..	..
Misc.	53.50	..	86	292	..	2.00	34.30	4.9	..	..	..	..	..	..	..	..	474.17	..	..

The WEEK'S NEWS

The Season's Road Work in City, County and State—"Good Roads' Days" in Three States—San Francisco Water Supply Condemnation—Reducing Lighting Rates in Many Cities—New Motor Apparatus Tested—Commission Government Victories—Solving the Garbage Problem—The Indianapolis Car Strike.

ROADS AND PAVEMENTS

The Year in New York State.

Oswego, N. Y.—More than 37 miles of state highway, costing approximately \$450,000, have been completed in Oswego county this season, according to statistics compiled by Superintendent E. A. Howard. The estimated cost is \$12,000 per running mile. Some of the contracts were started last season, but all were completed this fall. The statistics show that the longest piece of state road built this season is the Oswego-Fulton highway, extending along the east side of the Oswego river for twelve miles. This contract, which included the brick pavement in this city, cost in the neighborhood of \$140,000. These contracts were also completed: Southwest Oswego to the Cayuga county line, length three miles; Sandy Creek to Pulaski, eight miles; Union Square to Central Square, seven miles; Volney to Palermo, five miles, together with five miles in the town of Albion. The county officials expect the State Highway Commission will award contracts this winter for the construction of several additional miles of highway next season. The Hastings to Central Square road may be built next year. With the contract completed there will be a continuous stretch of state road from Syracuse to Watertown, completing the route originally laid out by the State Highway Commission between the two cities. Contracts for three approaches leading out of this city will also be awarded. County roads designated to be built next season are as follows: Town of West Monroe, eight miles; town of Schroepfel, five miles, and the town of Hannibal, three miles.

Saranac Lake, N. Y.—Only ten miles of the 135 miles of the Franklin county road system remained to be built when the commission closed work for the year 1913, this month. These ten miles of road are in scattered portions of the county, and the work upon them will be started early next spring. To construct the remaining roads of the county system, the commission has on hand \$30,000 in cash remaining from the original bond issue of \$500,000, and in addition has \$30,000 worth of road machinery which will be sold as fast as it is no longer needed and the proceeds applied to the building of the last sections of road. Members of the commission say that this amount will be fully adequate to complete the county road system, and friends of the work are pleased at the outlook. That the money has gone so far is a credit to the expert work and supervision of the county roads commission of the board of supervisors.

Potsdam, N. Y.—The Spellman-Oliver Company of Chateaugay, who has had the Potsdam-Nicholville state road under construction for the past year, has completed the laying of the tar binder. The road is now complete between the two villages, with the exception of the grading of the sides, which will not interfere with the use of the road. The Potsdam-Nicholville road, which passes through Hopkinton village, is 16 miles long. It had been finished between the two latter hamlets for some time. The road is part of the trunk line route across northern New York, which will lead eventually from Ogdensburg to Plattsburg. It is already done from Ogdensburg to Malone, a distance of 70 miles. With the completion of the De Kalb-Gouverneur contract, the strip finished Friday will also form a part of continuous state road from the St. Lawrence to the Clinton county line, which connects with the Jefferson county system of state roads, and thus with the great trunk line system of the central and southern parts of the state.

The Season's Road Progress.

Fort Worth, Tex.—Supervising Engineer J. C. Travilla, of Tarrant county's new \$1,000,000 road system, says that with good weather during the present month work on the roads will be rushed as never before. The rains of the last fortnight served to hinder the progress of the road building, but no time will be lost hereafter if the weather continues good. The report of money already expended on the new roads during the period of six months ending Oct. 31 shows the total of \$206,638.65.

Milwaukee, Wis.—Within the next few days the road building season in Milwaukee county will close. Nearly all of the work would have been completed last week if it had not been for the bad weather, according to Commissioner of Highways Herbert J. Kuelling. As it is impossible to build concrete roads during cold weather without a great deal of extra expenditure for equipping the road with steam pipes to keep the mixture from freezing, the work must close now. When the season's work is finished nearly 22 miles of concrete road, varying from 66 to 18 ft. wide, will have been built. The 22 miles of road will represent an expenditure of about \$400,000. The workmen of the county built 60 small bridges from 2 to 40 ft. long. The largest bridge, that across the Milwaukee river on the Port Washington road, was built by contract and cost \$40,000. All of the bridges are of concrete. The one on the Port Washington road has four concrete arches and is 60 ft. wide—the same width as those downtown. Plans are being made to get an early start in the road work next year and build at least forty miles before the season is over. The plans will be drawn up during the winter.

Tarvia for Michigan County Road.

Kalamazoo, Mich.—The surfacing of the West Main street road with tarvia has been laid by the good roads commissioner. The tarvia, which goes over the crushed stone at 200 degrees temperature, is the completing surface. A large tank car containing the tarvia was unloaded and transferred to the West Main street road. A big tractor engine was attached to the car and the liquid was heated to a temperature of 240 degrees. It was taken to the road bed in special wagons under which there is a continuous fire. The new road will be about a mile long. The tarvia was laid in two days, and will make the road dust proof.

Virginia Gets Four Portions of Federal Aid.

Charlottesville, Va.—Senator Claude A. Swanson and Capt. P. St. Julien Wilson, State Highway Commissioner, have succeeded in bring to Virginia \$40,000 of federal money for post roads. Virginia, in common with forty-seven other States, was originally allotted \$10,000 for her post roads, and the additional \$30,000 obtained for Virginia are the apportionments of three states which scorned aid. Following a stubborn fight by the American Automobile Association for federal assistance in the building of state highways, the government finally agreed to give \$10,000 to each of forty-eight states, to be employed in the construction of post roads. Under the provisions of the appropriation the post office department is to designate the roads upon which the money is to be spent, and the actual work is to be done by the U. S. Office of Public Roads, which is under the direction of Logan Walter Page. Among the first to apply for the \$10,000 appropriation was State Highway Commissioner Wilson and his application was honored. Hearing that certain states did not care to take the money under the conditions imposed, he wrote to Senator Swanson for information who replied that one state had refused the appropriation. At once Commissioner Wilson laid claim to the rejected \$10,000, and with the as-

sistance of the Virginia delegation in Congress succeeded in obtaining it. A second state turned down the \$10,000 federal gift, and a second application from Commissioner Wilson was honored. This was repeated a third time. In each case the state and counties supplement the fund for the improvement of the roads selected.

More "Good Roads' Days."

Asheville, N. C.—Led by Governor Locke Craig, who had issued the proclamation, 75,000 citizens in counties and towns all over the state celebrated "Good Roads' Days." Much road money was saved for the state by the good work accomplished. The several neighboring governors invited did not attend. Throughout this section the road work was general, hundreds of workmen putting in a full day's work. It is estimated that about \$25,000 worth of improvements have been made in the thoroughfares. The two days work concluded with a huge barbecue. Guilford county responded with 1,500 men. The students and faculty of the A. M. Negro College, the State Normal School and the University of North Carolina responded enthusiastically to the governor's call. In Rowan county the county board of commissioners awarded three prizes totalling \$1,000 to the townships that worked the greatest number of hours in proportion to the number of polls. In Charlotte the days were appropriately but quietly observed. The form of the observance in the city consisted largely in the trimming of hedges, cutting down of weeds in the streets and on the sidewalks, the opening of ditches and drains and the clearing off of rubbish in vacant lots. There was little actual road digging in the city owing to the prevalence of paved streets and macadam highways which are hard to work without the aid of heavy machinery. According to the agreement entered into beforehand it was decided to expend the greater amount of energy in clearing off and improving the appearance of the streets and roads rather than any actual road building.

Carlisle, Ky.—Several hundred citizens in Nicholas county turned out to work the county roads on the "Good Roads' Days." Judge William E. Conley, judge of the Nicholas county court, called for volunteers from the county and town to assist in working the road. Several of the most prominent people in the county responded to the call. Good road days will be observed annually from this date on. A movement has been started to work out a systematic plan for the work in the future in order that the greatest good can be accomplished in the short time allotted for volunteer work.

About fifty volunteer laborers, all farmers, repaired the St. John public road, which is seven miles long. County Road Engineer John R. Thompson is directing the work. This is the third road in McCracken county improved in a similar manner.

Galveston, Tex.—In spite of the rains which drenched most of South Texas, a goodly response was made on the "Good Roads' Days" and judging from reports covering a wide scope of territory, a commendable task has been performed by the citizens of the state. It will be impossible to estimate the mileage done by the highway volunteers for some time, as reports are coming in slowly. The good roads undertaking has been in response to the proclamation of Gov. Colquitt, who observed the great work accomplished under similar auspices in Missouri and Kansas late in the summer. Several towns postponed their observance of the event until clear skies will permit them to work. Dec. 4 and 5 have been set as dates for the postponed observance of good roads days in Dallas county by the officials of the Dallas County Highway Association.

Five hundred men worked the roads of Gregg and Harrison counties and accomplished a great work. Men of every class were out. Over 100 teams and scrapers were used, besides shovels, hoes and axes. All roads within ten miles were put into fine shape.

City Buys Crusher.

Lynn, Mass.—The city has just purchased a stone crusher for \$2,560 to be installed on Clark street next spring. It is a "Reliance" machine, and was bought from the Universal Road Machinery Company, of Chicago, Ill. This company was one of four bidders. The machine is fully equipped with a 12x24-in. jaw.

Highways Completed.

Keokuk, Ia.—The new macadam boulevard, extending 12 miles from the city along Lake Cooper and costing more than \$100,000, is completed and will be dedicated this month. The road was built by the Mississippi River Power Company to replace a road flooded by the building of the dam.

Washington, D. C.—Col. Harts, superintendent of public buildings and grounds, has announced the opening to the public of the new boulevard or driveway around the water-side of east Potomac Park, being that section of the reclaimed area east of the Pennsylvania railroad embankment. The driveway is now completed to the full extent possible under past appropriations by Congress. A first-class macadamized road with bituminous binder has been laid on the southern side to the tip of the park peninsula, nearly opposite the Army War College, at the Washington barracks, and a good dirt road extends from that point to the northern side and along the northern bank to the archway under the railroad, near the gates forming the outlet to the tidal basin. At both ends the new road connects with existing driveways in West Potomac Park. The new road is about three miles in length and permits an uninterrupted circuit of the entire Potomac Park. The dirt road on the northern or Washington side of the peninsula will be replaced with a modern macadamized road as soon as additional funds are provided by Congress. An effort will be made to secure an appropriation for that purpose at the next regular session of Congress.

Bridgeport, Conn.—The paving of Stratford avenue has been finished and the entire street thrown open to traffic, thus establishing a fine record for speed. From the time the work of removing the trees on Stratford avenue between the Yellow Mill bridge and the Stratford avenue town line until the street paving was completed there were 50 working days. The specifications for the work required that it should be completed within a time limit of 90 days. Included in the work was the removal of 103 trees, the widening of the street on both the north and south sides a distance of 2 ft., the construction of a sewer, and the laying of about 33,000 sq. yds. of wood block pavement, including the work of levelling, excavating, laying of concrete sub-base, and the laying of the wood blocks. Of the total of 33,000 sq. yds. of pavement laid, 18,000 sq. yds. is the city's portion of the work, and about 15,000 sq. yds. was the share of the Connecticut Company. All of the work was done by William H. Arthur, of Stamford.

Defeat \$50,000,000 Road Bonds.

Harrisburg, Pa.—Returns from the counties in the state show that the proposed \$50,000,000 bond issue, to be used in road improvement, was defeated by a substantial majority. While Philadelphia gave a majority of many thousands in favor of the big road loan, the country districts wiped that out and sent the proposition to defeat. With few exceptions the interior counties were antagonistic to the loan. The big western county of Allegheny split even. The vote in 48 counties, including Philadelphia and Allegheny, on the loan was: Yes, 167,195; no, 174,052.

Want Cement Road.

Shenandoah, Ia.—Shenandoah is working to have the first cement road in the southwestern part of the state. Citizens of the community are planning to have the road completed before the Lincoln highway is built across the state. The plan is to build one and three-fourths miles of such highway southeast from Shenandoah next year. During the season just passed this strip of highway has been put to a 1.25 per cent grade of the state highway commission standards. The county spent nearly \$3,500 on the work, the city \$500, and private citizens in the neighborhood of \$1,500. They have cement bridges and culverts all in with a 22-ft. roadbed over them. The grade is 26 ft. wide and properly tiled on the sides in addition to surface drainage. About one mile is outside the city limits and the other part in the city. The work of raising funds has already been begun. It is proposed to get a small additional sum from the county, a larger sum from the city of Shenandoah and the rest by contribution. Owners of the land along the road and beyond it are willing to contribute liberally in building the highway. \$20,000 will probably be required.

SEWERAGE AND SANITATION

Contaminated Water Supply.

Mamaroneck, N. Y.—At the regular meeting of the Mamaroneck Village board of trustees the announcement was made that the surplus water, which probably includes the sewage, from the Gedney Farm Hotel and other buildings at Gedney Farm, is discharged into a branch of the Mamaroneck river, which is the source of the water supply of the New York Inter-Urban Water Company's reservoir at Mamaroneck. This company furnishes the water for Mamaroneck, Harrison, part of Rye and part of Mount Vernon. At present under a government appropriation of \$28,500, the channel in Mamaroneck Harbor is being widened and deepened, and it is proposed to ask for an additional appropriation to widen and deepen the channel outside of the harbor. Congressman Benjamin Irving Taylor advised immediate action.

Borough Must Build Disposal Plant.

Butler, Pa.—In an opinion just rendered in the case of the Commonwealth of Pennsylvania versus the borough of Mars, Judge James M. Galbreath has issued a conditional order restraining the borough from allowing sewage to be dumped into Breakneck Creek.

War on Rats.

Seattle, Wash.—The finance committee of the city council has decided to introduce an emergency appropriation of \$1,600 at the next council meeting to employ additional rat-catchers and trappers to aid the present force in the war on rats along the water front, resulting from the finding of rats infected with bubonic plague. Health Commissioner Dr. James E. Crichton told the committee that sixteen plague-infected rats have been caught this month.

Vanlue, O.—More than ten thousand rats have been killed in six weeks in Amanda township. A banquet was held to celebrate the campaign, and 700 persons attended. Six hundred men were on each side of the hunters, and the township was very thoroughly explored.

Quarantine a Street.

Winchester, Ky.—The most sweeping quarantine ever made in Winchester has been issued by Health Officer I. H. Browne, who has placed under quarantine all the residents on Hill street between Pendleton street and Mutual avenue. About thirty families, mostly those of laborers, are included in the territory. A long block is comprised in the district under ban. Chief of Police McCord has been serving notices on the residents of the street and the quarantine will go into effect at once. The order from the health board means that the residents of the diseased territory must not go out of their yards until the ban is lifted. The other people of the city are notified that measles and smallpox have broken out in this territory and are warned to stay away.

Typhoid.

Newberry, S. C.—The epidemic of typhoid fever here is spreading. The number of students stricken now is twelve. The situation has become critical. The local health authorities have inspected every nook and corner of the college premises several times and find no cause for infection. Still the number of cases continues to grow daily. It is certain that the infection is not from the drinking water, as all the water used at the boarding hall and in the dormitories comes from the city's artesian well. The water from this well has been analyzed by the State Board of Health and by Clemson College, and shows no infection. The faculty has urged every student to be inoculated. Many of those remaining there have acted upon this advice. Unless there is an abatement in the epidemic soon, all work will be suspended and the students be allowed to go to their homes until the danger is past. As yet the fever has not proved fatal to any one, though several are in a critical condition.

Ellsworth, Kan.—Typhoid fever has broken out in Ellsworth and there is grave fear of an epidemic. So far eight cases are at the Ellsworth hospital. Only one of these cases is extremely serious. It would seem that these cases

are caused by impure milk. Supplies of milk from the dairies and water from the city wells have been sent to the state chemist for analysis. So general is the fear of contagion that a very large number of residents have submitted to inoculation with the anti-typhoid serum.

Diphtheria.

Lafayette, Ind.—Owing to the prevalence of diphtheria, which is assuming epidemic form, the city board of health has issued orders closing all public schools, theatres and moving picture shows. The quarantine will continue until further notice, which will probably be for a week or ten days. Four deaths have already occurred and many cases are under observation. Supt. Hight believes that the diphtheria epidemic in the city has become serious.

Shelbyville, Ind.—All the city schools, which have been closed the last week on account of the diphtheria situation, have now been reopened. It was decided to have seven physicians, one at each building, who will examine the throats of the pupils each morning.

WATER SUPPLY

Work on Great Condemnation Suit.

San Francisco, Cal.—The work of preparing for the condemnation suit to be brought by the city against the Spring Valley Water Company has turned out to be longer and more extensive than was anticipated, and City Attorney Long says that there is at present no certainty when the complaint will be filed. Engineer J. H. Dockweiler, with a force of about forty men, has been compiling an inventory of the company's properties outside of San Francisco and also of its Lake Merced lands, and it is expected that this will be completed this week. Dockweiler and his men have been at work about three months. The quantity of every road built by Spring Valley, every foot of Spring Valley pipe line, every tunnel, dam and flume, the company's pumps and buildings, and every structure, in short, included in the system outside of San Francisco, has been checked up. Dockweiler's report will give the cost units. The City Engineer is doing similar work with regard to the properties in San Francisco. When Dockweiler's report is in, the City Engineer will state what properties are actually needed by the city and should be condemned. He will tell us how much of the Lake Merced lands should be taken to protect the water supply from contamination. The company has been wanting to reserve more of these lands for itself than the City Engineer thinks it ought to keep. Long says that an appraisal of all the real estate to be condemned must be made when it is decided what properties are to be embraced in the condemnation suit. The city never has had an appraisal of the Spring Valley properties, he states. Speaking of the magnitude of the work the City Attorney says that this will be the greatest condemnation suit ever instituted in this country, which means the greatest in the world, both in regard to the amount of property to be taken and the sum to be paid. The searching of titles has been a large task in itself, as the company's conveyances extend back for fifty years, Long says, and easements for pipe lines, rights of way and leases have to be examined. Actual surveys of the company's lands and measurements of its structures have been made, so that nothing may be left to guesswork in court, Long states. Dockweiler has had the best men obtainable to assist him—surveyors, mechanical engineers, draftsmen and men experienced in railroad and water works construction and in valuation. The contest in court is to be on the question of valuation, and when all the evidence and data required have been gathered the city will call in experts, who will be witnesses at the trial and will testify what sum should be paid for the properties to be condemned.

Sues Church for Water Power.

New York, N. Y.—The churches that use city water to run the motors of their pipe organs are interested in a test suit brought before Supreme Court Justice Aspinall in Queens, to decide whether the city may charge for the water so used by St. George's Episcopal Church in Flushing. It means about \$100,000 to New York if the churches lose in this suit.

Council Orders Rate Reduction.

Texarkana, Tex.—At a meeting of the Arkansas City Council an ordinance was passed compelling the Texarkana water corporation to reduce rates to consumers, reductions to take effect January 1, 1914. The present rate is 40 cents per 1,000 gallons for 20,000 gallons, while the new ordinance provides for a rate of 25 cents per 1,000 gallons for 20,000 gallons; over 20,000 and not exceeding 40,000 gallons, 20 cents per 1,000 gallons; over 40,000 gallons, 15 cents per 1,000 gallons. The present minimum rate of \$1 per month is reduced to 75 cents per month. The water rates investigating committee employed a Memphis firm of expert public accountants to audit the books of the water company, and an expert waterworks engineer of Columbus, Ohio, to make an appraisal of the plant and property of the company. The committee found that the company is supplying water to both sides of the city from pumping stations, one in each city; but that the plant is used is one and the same, the greater part of the water coming from the Arkansas station and the major part of the investment is located in Arkansas. The net profits of the Texarkana Water Corporation for the past five years are found to be as follows:

1908	\$20,072.56
1909	13,851.80
1910	16,792.39
1911	23,094.08
1912	25,327.79

The present fair value of the plant and property of the company, used and useful, is found to be \$222,943, while the value of the property sufficient for Texarkana, Ark., is \$107,200, according to the report. The committee further reports that the rates now being charged by the company permit it to receive more than a fair return upon its investment and are unreasonable. The committee was of the opinion that the minimum rate should be reduced from \$1 to 75 cents per month, and that the maximum rate per thousand gallons should be reduced from 40 cents per thousand to 25 cents per thousand gallons, and further that the present system of contracts of the Texarkana Water Corporation is discriminatory and inequitable and should not be permitted. Further, the report recommends that bills for water should be rendered monthly instead of quarterly. The committee also found that the rates mentioned by them would give to the company a fair return upon its investment, even taking into consideration only the plant and the revenue on the Arkansas side.

Town Wants Exclusive Water Rights.

Harrisburg, Pa.—The State Forestry commission here has heard the contentions of the South Renovo borough and the South Renovo Water company in their dispute as to which one is entitled to take water from Hall's run. The borough was given the right to use the run for a water supply some time ago and the water company has also asked for the right to take its supply from the same source. C. LaRue Munson, of Williamsport, counsel for the water company, contended that the supply is ample enough for both, while the borough officials, including the new counsel, asserted that they wanted the run for the town and that the borough could build its own water works. The commission is expected to reach a settlement in the affair within a short time.

Municipal Plant Good Assets.

Cambridge City, Ind.—The light plant and water works are working successfully under the town's ownership and are the biggest assets Cambridge City has in keeping down tax rate. Recently a large addition was built to the light plant. It has three machines with an aggregate capacity of 350 horse-power. It will not be necessary to use the machinery to capacity for several years unless additional factory power is sold. The plant has a good day service as well as night and runs for twenty-four hours. Half a dozen factories use the power during the day and the streets are electrically lighted all night. Most of the houses are lighted by electricity. The water works, which has been town property but a short time, was improved a short time ago and now bears the distinction of using one

of the two of its kind of filtering system north of the Ohio river. The water was formerly pumped from the Hagers-town canal but this was generally accepted as being unsatisfactory. The town board then ordered wells dug. At the depth of thirty feet hard pan was struck. Boring through five feet of hard pan, a vein of excellent water, flowing through gravel at the depth of thirty-five feet, was found. This is five feet deep and rests on hard pan. The bottom of the supply well is forty feet deep. The filtering system is so arranged that the unfiltered water flows above in the well. Following the filtering process, the water is pumped up from the lower strata through the lower part of the filter.

\$275,000 Reservoir.

Fort Worth, Tex.—In completing the West Fork reservoir, since it took charge of the task, the city has already expended \$100,603.85, according to the official figures. The engineers have estimated that the dam can be finished by expending \$175,000, whereas about \$200,000 of the recent bond issue remains available. Some land is yet to be purchased, but funds are on hand for that purpose and there is also some land to be sold, and it is expected that the proceeds of this will be considerable. Such land as will be placed on the market is located well back from the lake, and it is expected that it will be used as sites for country homes and command good prices.

The itemized report on the cost of the work is as follows:

Wet and rolled embankment, 101,408 cu. yds., at 42c., \$42,591.36; 1,200 cu. yds. earth removed from berm at 20c., \$240; 535 cu. yds. of loose rock at \$1, \$535; 1,458 cu. yds. rock spoil on berm at 40c., \$583; 9,238 cu. yds. cyclopean concrete at \$5.76, \$53,470.08; 101 cu. yds. of straight concrete at \$7, \$707; 1,000 cu. yds. of gravel on hand at \$1, \$1,000; 2,942 cu. yds. earth excavation at 42c., \$1,235.64; 200 cu. yds. cyclopean rock on hand at 75c., \$150; 10 barrels cement on hand at \$1.80, \$18. Total at above unit prices, \$100,530.20. Total cost to Nov. 1, \$100,603.85.

Lowering Water Mains.

Pasadena, Cal.—If the engineering department keeps up its recalculating, Commissioner Loughery will have to contemplate placing the Bradford street water mains on an elevator. Under orders from the city when the grade of that thoroughfare was established by former City Engineer Van Ornum, the water pipes were sunk deeper in the ground. Some time since the engineering department did a bit more figuring and the Bradford grade was again established, this time on even lower lines, and the water department had to lower the pipes again. The commissioner is now confronted with the problem as to who should pay for the new lowering. Commissioner Salisbury has looked up the law and he claims that when a grade is once established and complied with if it is re-established the city has to pay the bill for lowering pipes; therefore, he wants the cost paid out of the general fund. In the meantime, other city officials have figured it out that the property owners should pay the bill and have so billed them. The city attorney will probably have to settle the matter.

STREET LIGHTING AND POWER

Reducing the Rates.

Independence, Ore.—The Oregon Light & Power Company has reduced its rates for light in this country from 15 cents to 11 cents per kilowatt. A discount of 10 per cent also is allowed if bills are paid before the 10th of the month. There was much complaint of the high rate, and the reduction is in concession to this.

San Bernardino, Cal.—In a lengthy opinion, Judge B. F. Bledsoe of the superior court, gives San Bernardino city a sweeping victory over the local gas companies and sustains the dollar gas rate passed by the city council last winter to become effective March 1. The Southern California Gas Company enjoined the city from putting the ordinance into effect, maintaining that the old rate of \$1.15 was as low as gas could be profitably sold in this city.

Springfield, Ill.—The reduction in the electric light rates requested by Mayor Schnepf at the meeting held with the Utilities company have been conceded by the officials of the company at a second conference with the commissioners. The rates will go into effect on Dec. 1, 1913. The

rates will be 10 cents an hour for the first 30 k. w. hours; 7 cents an hour for the second 30 k. w. hours and 3 cents an hour for all in excess of 60 k. w. hours used by the consumer. The old rates were respectively 11 7/10, 9 and 5 cents. The rates, while still much higher than the present city rates, give a reduction of from 15 to 25 per cent for small consumers, which include 93 per cent of the company's patrons. The city charges 8 cents an hour for the first ten k. w. hours; 5 cents an hour for the second ten k. w. hours and 3 cents an hour for all in excess of 20 k. w. hours used.

Columbus, O.—Attorney James M. Butler's fight to have the municipal light plant officials enjoined from selling its day load current for power at rates which he claims are insufficient to pay for the cost of production, has been renewed with the filing of an amended petition in Common Pleas court by Mr. Butler against Mayor Karb, City Solicitor Bolin and Director Kinnear. Some time ago Judge Bigger in sustaining City Solicitor Bolin's demurrer to Butler's petition on grounds that the charges were not specific enough, gave Mr. Butler 10 days in which to file his amended petition. Butler's new petition charges that the rate for the day load of current to consumers is not enough to pay for the operation of the plant and interest on bonds and money for the proposed plant extension; that the prices are not uniform in all localities; that consumers in some districts are buying current at prices above those in other portions of the city; that the city officials are arbitrarily fixing the rates and selling the current at prices lower than the actual cost of production and are running the plant without any profit to the city. Butler also asks that the city officials be compelled to fix a uniform scale of prices high enough to make the plant run at a profit. He claims this can be done without seriously affecting any consumer, as all contracts are either indefinite or near expiration and can be cancelled if a new rate goes into effect. This is the same case that was much discussed during the recent campaign. Bolin first filed the suit against the plant. Then council employed an attorney to defend the city. Thereupon Bolin faced about, with drew his suit, and later Butler refiled the same suit. Bol as city solicitor then defended the city, and his demurrer knocked out Butler's suit, which was the same suit Bolin had originally filed. Butler now gets the case before the court again in his amended petition.

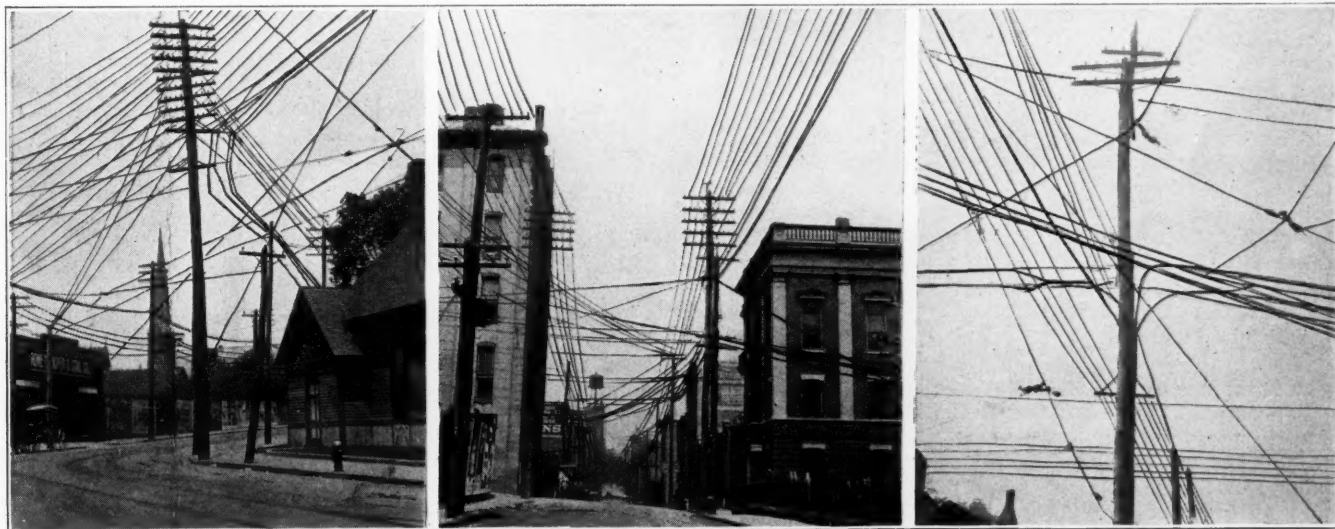
Paris, Ky.—An ultimatum issued by Mayor J. T. Hinton to the Paris Gas & Electric Company is to the effect that unless the company intends to proceed under the terms of a franchise recently granted for natural gas the city will at once take under consideration the advisability of installing its own electric and power plant as well as a plant for the manufacture of artificial gas. The declaration of the mayor followed a conference he had with H. W. Beck, of St. Louis, secretary of the light and development company which owns and operates the local plant, to-

gether with a number of others throughout Central Kentucky. Advised of the revolt of the citizens of this city in the matter of signing the contracts, Mr. Beck came here to ascertain conditions, and after conferring with Mayor Hinton returned to St. Louis, ostensibly to procure a contract that would be acceptable to the city and relieve the situation which has been strained to the point of breaking. While here Mr. Beck is said to have stated that it was the intention of his company to operate under an old franchise which it holds instead of one granted this year for natural gas, and which was purchased from the Central Kentucky Natural Gas Company. Under the old franchise a rate of \$1.65 can be charged for gas, while under that granted by the Council this year the maximum rate is 35 cents.

Chicago, Ill.—Rate reductions offered by the Commonwealth Edison Company have been accepted by the council committee on gas, oil and electric light and the committee drafted a contract for five years. The new rates for lighting are 10 cents a kilowatt hour primary, 5 cents secondary and 4 cents tertiary on Dec. 1, and a further reduction to 3 cents in the tertiary rate on March 1. The power rates remain the same as they are now—10.5 and 3 cents an hour. The reduction amounts to \$654,000 a year from the rates in effect in 1912. About \$200,000 of the reduction is already in effect, having been made voluntarily April 1 last, so that the net reduction to be made in the contract ordinance is \$454,000 a year. Alderman Merriam proposed a rate of 9, 5 and 3 cents for power and 9 and 4½ cents for lighting. This would reduce the earnings of the company \$614,000 a year, which, with the reduction already in force, would make a total reduction of \$814,000 over the 1912 rates. City Electrician Palmer when asked what position he would take if the rates proposed by Alderman Merriam were taken into court, said that as an engineer he would be forced to oppose a reduction of that kind. It could be shown that the company is losing money now on its primary charge to about one-third of its customers.

Removing Overhead Wires.

Knoxville, Tenn.—Knoxville will soon be rid of many of the overhead wires that now detract so much from the appearance of its thoroughfares. Unsightly telephone wires, cables and poles are to be removed on leading streets and avenues, and on Gay street all poles, excepting those to which trolley, light and power and telegraph wires are attached, will be taken down. The trolley posts will be ornamented with clusters of electric lights, and thus the "great white way" of Knoxville will be further illumined. The Cumberland Telephone & Telegraph Company the past week began removing its overhead wires and cables. The underground conduits in the business and parts of residence sections of the city were completed recently and are



Courtesy Knoxville "Sentinel."

UNSIGHTLY WIRES TO BE REMOVED.

now in use. A survey preliminary to placing other wires underground on Gay street is being made. The Cumberland Telephone & Telegraph Company has expended about \$425,000 in placing wires under ground and constructing and equipping a new building in which its offices and exchange have been installed.

A Two-Cent Rate.

Jacksonville, Fla.—For the purpose of increasing the day load of the municipally-owned Jacksonville electric light plant, the electrical committee of the board of bond trustees has authorized a straight cooking and heating rate of two cents per k. w. hour. This means for Jacksonville what is supposed to be very close to the lowest rate charged for electric current for this purpose of any city in the country and it will attract widespread attention. That the Knoxville plant is owned by the city will probably be used everywhere as a convincing argument in favor of municipally-owned electric plants. The new rate will prove a real factor in reducing the present high cost of living. Recognized experts state that this low rate will supply the necessary fuel for cooking at an average of less than 40 cents per person per month. Indirectly, by increasing the day load of the plant, it will help materially in adding to the city's net profits which last year exceeded \$350,000. For a long time ways and means for increasing this day load have been seriously considered. While much has been accomplished in the two-cent price for electric current for commercial power, it was very evident that the further increase of this day load would prove a tremendously valuable asset.

Automatic Controllers for Street Lights.

Leeds, England.—The Leeds street lighting committee has decided to install automatic controllers on lamps in two districts of the city. Already 170 such are now in use. The initial cost of installing the controllers throughout the city would be about \$90,000. It would reduce the number of lamplighters by more than half—from 160 to 70—and a saving in labor cost of \$36,000 a year, in gas \$10,000 and in mantles \$2,000. The labor unrest is causing this and other economies to be seriously considered by the city authorities.

FIRE AND POLICE

Renumbering an Alarm System.

Boston, Mass.—A new fire alarm system, based upon the division of the city into districts and involving the renumbering of all fire boxes in the city, so that the first number sounded shall indicate the section of the city in which the fire is located, is being worked out by Fire Commissioner Cole and Superintendent of Fire Alarms Fickett. Thus all alarms in Charlestown would start with the figure 2, all in East Boston with the figure 3 and so on. Under the present system the boxes are located with little system and serial numbers are often far apart. If a box is not understood properly, it frequently causes the firemen great confusion. It is proposed to divide the city proper into two sections, beginning at the foot of the Charlestown bridge with the dividing line, along North Washington street, Hanover and Tremont to the centre of Massachusetts avenue. These two main divisions will be subdivided into districts, each with its guide number. All schools, theatres and institutions which possess private boxes will be included in the district numbers like any other box. All boxes with a zero in them will be eliminated. Old box 52, under the new system, will be known as 1433. The plan is not yet perfected, and it is thought it will take several months to complete the system.

Bar Gasoline Cleaning.

San Angelo, Tex.—Eighteen fires have broken out in San Angelo in the past ten years whose starting has been traced to the keeping of gasoline for cleaning purposes in the tailor shops. Members of the city council are planning to pass an ordinance prohibiting the use of gasoline in tailor shops. Two fires last week here have been caused by exploding oil.

Every Policeman a Traffic Officer.

Providence, R. I.—As a result of a new order issued by the Board of Police Commissioners, which has gone into effect in all the stations of the city every patrolman in Providence became a traffic officer, with special orders to see that the traffic laws are obeyed. Henceforth every man who wears the police uniform, and the plain clothes men as well, must observe traffic conditions, and carry out the provisions of the traffic ordinance, as if they were members of the official traffic squad. This plan, which the commission does not hesitate to say is a radical one, was adopted for the purpose of curbing the many accidents within the limits of the city, and for the enforcement of every regulation contained in the traffic ordinances. The measure is not aimed at the enforcement of the traffic rules in the congested portions of the city merely, but is intended to take in the more remote sections. It is not directed wholly to automobiles, but to every vehicle that uses the streets, with the exception of electric cars. The speed law, the use of wrong sides of streets and the allowing of vehicles to remain unattended on streets longer than the specified time allowed, will figure largely in the crusade, which the commission intends to wage against the careless, thoughtless and reckless driver. The board at present is working out restricted speed districts. When the task is completed, large signs will be posted in various sections of the city, where the speed rule is to be enforced rigidly, warning drivers of sections through which they must pass only at a specified rate of speed. This section, the commissioners state, will cover a considerable area. With the adoption of the new method of regulating traffic the auto trap will be abolished, as the commission believes that plan is already obsolete. A high power automobile will take the place of the trap. It will be manned by two policemen, who will have the run of the city in the new plan for the elimination of the speed maniac.

Salem, O. Firemen Get Safety Helmets.

Salem, O.—Safety Director J. J. Jackson has purchased for the fire department two safety breathing helmets to be used by the firemen in case of fire, and when they are compelled to enter rooms which are filled with smoke. The helmets are made by the National Safety Device Company, of Cleveland, and are rather recent on the market. The helmets cost \$25 each. This safety device has something of the appearance of a helmet used by a deep sea diver. It fits over the head and shoulders, and has two square places covered with ising-glass to permit the wearer to see. Another opening at the mouthpiece permits of fresh air when outside a building. This opening is closed with a piece of asbestos when the helmet is in service. From the bottom of the helmet extends two long tubes that unite and form into one, making it a V shape. The lower end of this tube is supposed to drag on the ground, or floor, and this affords the wearer an opportunity of getting fresh air into the helmet. On the inside the hood there is a little rubber tube used as a mouthpiece, also for obtaining fresh air. The helmet is made of a waterproof canvass, and is light in weight. The helmets were tested out. They worked excellently and nothing defective could be found about them.

Police Pension for Disability Only.

Washington, D. C.—The decision of Justice Wright of the District Supreme Court that the District Commissioners must be governed exclusively by the result of the medical examination of pensioners in the matter of reducing the amount of pensions to policemen has been sustained by the Court of Appeals of the District of Columbia, in an opinion by Mr. Justice Van Orsdel. A former policeman was retired in September, 1892, for total disability incurred on duty, with a pension of \$50 per month. The disability still continues, according to the result of a medical examination submitted to by the pensioner. The commissioners, having learned that the man was possessed of a considerable income above his pension, reduced the amount of pension from \$50 to \$1 per month. He refused the checks for the reduced pension and sought a mandamus, which Justice Wright granted. The commissioners noted an appeal.

Counsel for the District urged that the commissioners were still invested with the authority of the old police board to discontinue an allowance for any satisfactory reason. The appellate court denies this contention.

Mayor Head of Police Department.

La Crosse, Wis.—Judge Higbee, in circuit court, held that the mayor is the head of the police department and that the chief of police is required to carry out his orders. The decision was rendered in the case of John B. Weber, chief of police, against Mayor Sorenson, these officials having differed over police transfers.

University to Teach Fire Protection.

Lawrence, Kan.—The University of Kansas extension division has arranged to offer a course in fire protection to fire departments in the cities and towns of Kansas. A series of lectures designed to give instruction in the latest methods of fire protection will be outlined by Harrison Parkham, state fire marshal, with whom the university is co-operating.

Police Punch Clock Every Half Hour.

Bristol, Tenn.—The night police here are now required to punch a watchman's clock, which has been placed in the municipal building on Fifth street, adjoining the fire hall. The building will be used as night police headquarters and the men will report there on the hours and halves to punch the clock.

MOTOR VEHICLES

Two Auto Engines for Chattanooga.

Chattanooga, Tenn.—Upon recommendation of Commissioner Betterton, of the department of fire and police, two automobile fire engines have been contracted for by the city of Chattanooga, to be delivered as soon as they can be built by the American-LaFrance engine company, of Elmira, N. Y. Each of these engines will be 90-horse power, with a capacity of 700 gallons a minute with a pressure at the nozzle of 120 pounds. One will be a triple engine, including pump, hose wagon and chemical. It is to be located in the newly annexed territory. It will cost \$8,500. The other will carry pump and hose wagon. It will be located at the hall on Cameron hill and the triple automobile engine there will be sent to No. 7 hall on Main street. The commissioner also recommended the purchase of two Buick runabouts, one for the police chief and one for the building inspector, at a cost of \$1,000 each, which was approved by the board.

New Truck Tested.

Franklin, Pa.—The new auto fire truck has received its first test on the streets of Franklin. It is very beautifully fitted up and from the first performance seems to be as good as it is handsome. A run over the city streets, including the grade up Liberty and Sixteenth to Miller Park, was made. The distance from First street to Twelfth, considerably over a mile, was made in two minutes with power in reserve. The grade on Liberty street above Fourteenth was taken easily on second speed. Several citizens, including O. L. Bleakley of the fire and water committee of city councils, took in the ride. There seems to be no doubt that the machine, which is the product of the Knox Automobile company of Springfield, Mass., will make good. The contract price is \$5,800. The machine is built to carry 10 men and all the needed equipment. It is to be capable of making 40 miles an hour on the level and of climbing any grade in town. It is probable that one of the two fire teams now owned by the city will be disposed of, or a branch department may be established in the Third ward.

Strenuous Test for Chemical.

Whitehall, Pa.—A very satisfactory test of the new White auto chemical fire engine lately purchased by Whitehall Township for the Fullerton Fire Co. was made at Fullerton before a large assembly of citizens. A large frame structure was built opposite the house, filled with lumber

saturated with oil. Lewis Porter one of the commissioners applied the torch and a fierce fire was started. In just four minutes after the stream was turned on it was under control and in fourteen minutes it was extinguished. The test was very satisfactory. Mr. Harland, of the White people, handled the hose and Mr. Hilperty was at the wheel. The engine is equipped with four speeds, electric self starter, electric lights, 50 gallon chemical tank, 200 feet of chemical hose. The car can carry 800 feet of water hose and six men. The township commissioners, T. M. Snyder, Lewis Porter, O. E. Gruver, A. L. Hoffman and Edgar Butz were present and were all highly pleased with the machine. Chief Snyder, of Fullerton, directed the fire fighting and Miles R. Newhard drove the machine. The commissioners say they will purchase an engine for every district in the township forming a company and providing the housing. In the meantime the Fullerton engine is expected to answer all township calls.

Accepts Motor Engine.

York, Pa.—The new motor-driven fire fighting apparatus of the Eagle Fire Company, purchased recently from the Martin Carriage Company, has been officially accepted at a meeting of the committee. Some minor equipment, such as cut-offs and valves, will be added to the machine, in order to increase efficiency. The meeting was presided over by president of the company, J. H. Findley.

GOVERNMENT AND FINANCE

State May Buy City Bonds.

St. Paul, Minn.—The time is not far distant when the state will be able to finance bond issues by the municipalities of St. Paul and Minneapolis, according to State Auditor S. G. Iverson. The permanent trust funds are growing at such a rapid rate that even now the supply of money available or in sight exceeds the demand by school districts and other minor governmental subdivisions. The state loans the trust fund increment at 4 per cent. Should it be able to take care of the bond issues of large cities it would mean a considerable saving, as much difficulty is now being experienced in floating even 5 per cent municipal securities. Mr. Iverson estimates that during the fiscal year ending July 31, 1914, loans from state trust funds will amount to \$3,000,000. Of this \$2,000,000 will be new money, or permanent additions to the fund, and the balance will be obtained from maturing of old loans. The new money coming into the trust funds particularly from iron ore royalties will be \$5,000,000 annually inside of ten years, according to conservative estimates. It will be a task to place this money to advantage, and even before this time arrives it is believed the state can take up the large bond issues of the Twin Cities and Duluth.

Commission Government Progress.

Mt. Sterling, Ky.—The citizens of Montgomery County have put their seal of approval upon the commission form of government by casting 1,362 votes in its favor and 256 against it, making a majority of 1,106. Efforts will be made to have a special act of the legislature passed as an emergency putting the commission form into effect at once instead of waiting four years. The success of this movement in this county is due to the efforts of County Attorney Earl W. Senff.

Paducah, Ky.—Commission government has been adopted in an election by both the county and city, the former by about 400 majority and the latter by 150 majority. The campaign over commission government was one of the most exciting in the history of the city.

Pineville, Ky.—A commission form of government for Bell county, which will put all its fiscal affairs in charge of three commissioners, was carried by 35, a small vote being polled on the question.

Kenosha, Wis.—Kenosha is to have a chance to accept commission form of government before the next city election. Petitions signed by a requisite number of electors are ready for presentation to the city council.

Kearney, N. J.—Another political campaign, which gives some promise of being as strenuous as that just finished has

commenced in Kearney, petitions being circulated requesting the town clerk to call an election for the adoption or rejection of commission government. It is said to be the purpose of the supporters of commission government to file the petitions as early as possible, so that an election will be held before the first of the year, at which time the newly elected Mayor and councilmen are sworn into office.

Reduced Rates for Councilmen.

Eufaula, Ala.—Members of the city council are to receive special rates for water, electric light and gas service from the municipal plants, under a resolution passed by the council. It was at first proposed to give them free service, but this struck a constitutional snag and the proposition had to be modified to make special rates only. These are now being arranged by the light and water committee. The aldermen receive \$45 a year as their salary, but the vote of 6 to 2 showed that a majority felt that this was totally inadequate to the cares involved.

City Must Pay Mayor Back Salary.

Knoxville, Tenn.—According to the opinion of the Supreme Court the city of Knoxville is liable for the salary of Mayor S. G. Heiskell and the sureties of J. L. Lowe are liable only for interest on salary during the ten months the mayor was enjoined from holding office. This opinion comes in affirmation of a former opinion handed down by the court of civil appeals. The suit came as a result of an injunction served on Mayor Heiskell prohibiting him from assuming his duties as mayor after the election of January 1, 1912. Mayor Heiskell won in the suit of injunction, and took oath of office about ten months after he was elected. He thereupon brought suit against the sureties of J. L. Lowe et al who brought the injunction suit, seeking to collect ten months' salary from them. The court of civil appeals held that the sureties were not liable for the salary, but that the city was liable for the salary, and that the sureties were liable for interest on the money. The suit was first brought in the circuit court of Knox county. Judge Von A. Huffaker in an opinion held that the city was liable for the salary, and sureties for the interest. The civil appeals court ruled accordingly, and now the supreme court affirms the lower court. This is the last of the suits brought as a result of enjoining Mayor Heiskell upon his election to office.

Favor Municipal Ownership.

St. Louis, Mo.—The board of freeholders which is drafting a new charter for the city of St. Louis has unanimously voted to include in the document a clause providing for municipal ownership of public utilities. This will relate to street railways, subways, gas and electric lighting plants, laundries and lodging houses. The charter will be submitted to a vote of the people next fall.

STREET CLEANING AND REFUSE DISPOSAL

Plans for Solution of Garbage Problem.

Chicago, Ill.—At a joint meeting of the finance committee and the city waste commission a subcommittee consisting of Dr. George B. Young, commissioner of health; L. E. McGann, commissioner of public works, and Colonel Henry A. Allen, assistant city engineer, was appointed to make recommendations for a solution of the immediate garbage problem. Three plans for garbage disposal are under consideration, and the subcommittee is expected to select the most practical one and submit recommendations within two weeks. One plan is to let a contract for three years to the Illinois Rendering Company, a second is to adopt the reduction system of Dr. J. M. Hirsh and the third is to have the city proceed with the condemnation of the old plant of the Chicago Reduction Company. At the meeting it was explained that it will require several weeks to complete the details of condemnation under the most favorable circumstances, as some of the stock of the company is held by persons whose names are not known, and the matter would have to be advertised for thirty days. Alfred S. Austrian, representing the Illinois Rendering Company, said his cli-

ents would not accept a contract for a shorter term than three years. He said an eighteen months' contract would not be accepted even should the city agree to pay the \$125,000 necessary to put the plant in a sanitary condition. The proposition of the Illinois Rendering Company is to acquire the plant of the Chicago Reduction company, expend \$125,000 in rehabilitating it and handle all garbage delivered at the plant without cost to the city, except that the city must furnish free water. The members of the finance committee are inclined to favor the proposition, but wished to get a report from the subcommittee before deciding finally.

Low Cost Garbage Destruction.

Portland, Ore.—Garbage was destroyed at the city incinerator during October for an average cost of 27¼ cents a ton, which is the lowest mark reached since the plant was built. The lowest former average cost in any one month was 29 cents. The record also was broken in the total amount of garbage burned, as there were 4,109 tons destroyed, or an average of 152½ tons a day. One day during the month a total of 180 tons were burned, while the guaranteed capacity of the plant was only 150 tons. The destruction of this amount of garbage in excess of the guaranteed capacity is due to changes made in the plant by the late D. E. Otis, who was formerly superintendent. One reason for the low average cost of reduction is because a larger amount of garbage was burned with the regular force of employees. No fuel was used whatever.

Cost of Snow Removal.

New York, N. Y.—The price for removing snow from city streets during the coming winter will be 56 cents per cubic yard. This will be 13 cents more per yard than was allowed last season. This is the effect of a decision by Justice Pendleton in the Supreme Court when he refused to grant a permanent injunction restraining Controller Prendergast from approving the contract awarded to the Belmont Contracting Company for the removal of snow.

RAPID TRANSIT

Police Strike Ties Up Cars.

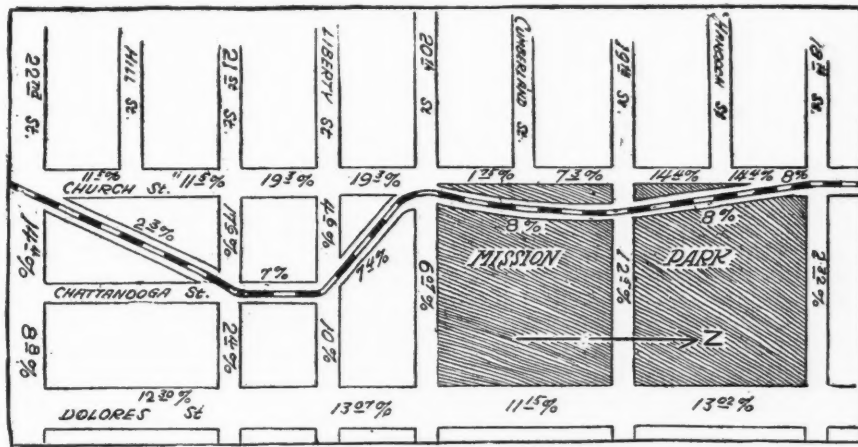
Indianapolis, Ind.—Refusal of thirty members of the police force to ride in cars operated by strikebreakers caused one day of the street car strike to pass without service here. The policemen turned in their badges, which were returned with orders to remain on patrol duty. It was announced that charges will be preferred against them after the strike has been settled. The policemen in refusing to ride on the cars said they would march with them, would fight in the streets, and face the missiles of the crowd, but they would not board the cars. Mayor Shank modified a former statement attributed to him defending the policemen. He said he believed the lives of all policemen running the cars were in danger and that he did not want any bloodshed. When the police are sufficiently reinforced, he said, by the state militia, he would see that every policeman did his duty. Interurbans have been permitted to run unmolested into the city, pending adjustment of grievances between the union interurban carmen and the directors of the several lines. An arbitration agreement similar to the settlement in the local car strike has been signed by the interurban trainmen. Preparations for the presentation of the grievance of the city street car men to the Indianapolis Traction and Terminal Company, under the terms of the agreement that ended the strike are in progress. These grievances were to be presented within five days of the resumption of service. Conferences regarding the labor situation as it affects interurban companies and employees were also in process of being arranged, and while no definite time had been fixed for the drafting of an agreement, it was expected that the attitude of each side would be made known shortly. Street car service and interurban service is now normal, the city lines being operated under an agreement for the settlement of all disputes, and the interurban being operated by the employees of the companies without reference to labor organizations, pending the negotiations which were being opened. The interurban employees had agreed that there should be no interruption of service while the negotiations were in progress.

Blizzard Ties Up Ohio Traffic.

Columbus, O.—With railroad, street railway and wire traffic generally impaired throughout the state, in some sections demoralized, Ohio has been in the grip of the worst blizzard of the winter. Intermittent wire service with Cleveland told of the worst storm of the year. Street car traffic in some cases was entirely demoralized. Cincinnati suffered similarly, while Toledo, with all linemen employed by the railway and light companies on strike, suffered without telephone and telegraph service. Akron and Canton were cut off from the rest of the state. Northern Ohio suffered the worst, the general snowfall ranging around 10 inches, with a gale blowing it into huge drifts. Some cities have reported the entire loss of street, electric light and wire service.

Surmounting a Troublesome Grade.

San Francisco, Cal.—City Engineer O'Shaughnessy and Engineer Ransom have just issued a detailed account of the plan for the extension of the proposed Church street municipal line from 18th street. O'Shaughnessy's plan is called the Mission Park boulevard and uses a minimum amount of the Mission Park area as compared with other plans that have been suggested. It is estimated that it will cost \$35,000, and if the matter is not delayed in its primary stages the city engineer is confident that the work could be completed by the time of the exposition in 1915.



OVERCOMING THE CHURCH STREET GRADE.

The scheme proposes using the westerly edge of Mission Park. The road will be 60 ft. wide and would be used for both vehicles and railroad traffic. From 20th and Church streets the car tracks would traverse an easement through private property between 18th and Liberty streets, easterly to Chattanooga street, continuing thence over Chattanooga from Liberty to 21st street. South of 21st street the road would again continue through private property to 22d and Church streets, from which point the proposed Church street tunnel would begin. City Engineer O'Shaughnessy has asked the co-operation and suggestions of all citizens. He said that the proposed route would give the best communication yet between the Mission and Noe Valley.

City Car Line Makes Money.

San Francisco, Cal.—San Francisco's municipal railway in Geary street, the only line in operation, showed total receipts of \$58,663 for the month of October, or an average of about \$1,892 daily, according to the figures just given out. This is largely in excess of expenses of operation.

MISCELLANEOUS

Favors Municipal Milk Plant.

Jamestown, N. Y.—Mayor Samuel A. Carlson, in a message to the Common Council, has urged the establishment of a milk plant by the municipal government. He says that he has investigated the matter and finds that a plant can be established and put in operation as a cost of \$20,000; that it would be able to sell milk at present rates and make enough the first year to pay the entire cost of the plant and the establishment of the business, and that thereafter

a higher grade of milk could be sold at much lower figures than charged at present. The council will appoint a special committee for the purpose of considering the suggestions in detail in co-operation with the local board of health.

Want Municipal Station.

St. Paul, Minn.—Minneapolis has started proceedings for a municipal railroad passenger station. A resolution introduced by President Karl De Laitre of the city council directs the city engineer to prepare plans for the station and submit them to the State Railroad and Warehouse Commission for approval. It was referred to the committee on public welfare and is almost certain of favorable action. The resolution takes advantage of a sweeping empowering act of the last legislature. Under it the council has power to erect and maintain a union station under conditions that virtually compel the railroads to pay for the construction and maintenance of the depot, while the city has full charge of its operation.

Municipal "Movies."

Hibbing, Minn.—A municipal moving picture show, at which children for the usual prices could see films of historic and educational value, is the latest suggestion to grow out of the controversy over the censorship of "movies" in Hibbing. The author of the idea, a prominent business man, promises that it will be brought before the council for consideration and believes that it can be made self-supporting. He advocates the usual 5 cents to children and 10 cents for adults. A suitable manager could be found and the show would be one that would soon make itself felt in the village. The parents and school officials would be back of the movement. C. E. Everett, probation officer, who was the advocate of the censorship plan, is heartily in favor of the municipal "movies," and sees in it great possibilities for educational work. Another plan that has been proposed in connection with the same scheme is an outdoor exhibition of the films on band concert nights, which would involve the erection of a suitable screen and the moving of the picture machine for those nights. Village Attorney Scott said that there may be some legal objection to a municipal moving picture show. The civic clubs will discuss the plan and in all probability pass resolutions in proper shape for presentation to the city council.

A Municipal Building for Industries.

Calgary, Canada.—Calgary is the first city in Canada to undertake as a municipal department the construction and operation of an industrial service building. For the \$250,000 appropriated by the large favorable vote of the ratepayers, a six-story concrete structure will be erected and leased to incoming manufacturers. It is anticipated that by getting a start in this way, small industries will be encouraged, soon outgrow their temporary quarters, and go out to build more extensive accommodation for themselves. The advantage primarily to the newcomer is that he retains his capital in the form in which he can most profitably use it. To the people at large this plan offers an inducement to small manufacturers which, instead of being a tax, as is the bonus idea, is a revenue producer from the beginning. The industrial bureau of Calgary is responsible for having pressed the question before the attention of the city council and ratepayers. The experiment will be watched with interest.

City Officials and Free Passes.

Terrell, Tex.—The City Commission of Terrell is considering the application of the anti-pass law to officials of this city. It is a question with that body whether city officials can accept complimentary tickets to theatres, tent shows, circuses, etc., without violating the anti-pass law in spirit.

LEGAL NEWS

A Summary and Notes of Recent Decisions— Rulings of Interest to Municipalities

Park—Sewer—Discretion of Authorities.

Caldwell et al. v. City of Seattle.—The discretion of the governing body of a city as to the necessity of laying a sewer through a park on the top of the ground would not be reviewed by the courts.—Supreme Court of Washington, 135 P. R. 470.

Highways—Negligence of Commissioner.

Kent v. Town of Paterson.—A town highway commissioner's negligence in taking stones from the beaten road and placing them beside the highway must be determined from the circumstances as they existed at the time.—New York Supreme Court, 141 N. Y. S. 932.

Water for Fire Protection—Breach of Contract.

Braden v. Water Supply Co. of Albuquerque.—A taxpayer has no such direct interest in an agreement between a municipality and a corporation for supplying water as will allow him to sue *ex contractu* for breach, or *ex delicto* for violation, of the public duty thereby assumed.—Supreme Court of New Mexico, 135 P. R. 81.

Labor Laws—Violation.

Molloy v. Village of Briarcliff Manor.—Under laws 1906, making void all contracts under which workmen on municipal work are worked more than eight hours a day, except in cases of extraordinary emergency, when a municipality claims that a contract is avoided, it must allege, not only that workmen were worked more than eight hours, but that they were so worked when there was no extraordinary emergency.—New York Suprm Court, 143 N. Y. S. 599.

Negligence of Contractor—Liability of City.

City of Hugo v. Nance.—A municipal corporation, by contracting with another to construct an improvement for it, does not and cannot thereby abdicate its control over the streets or public grounds of such corporation, nor thereby exonerate itself from liability for an injury resulting from the negligence of such contractor in the manner of the performance of his contract.—Supreme Court of Oklahoma, 135 P. R. 346.

Street Opening—Benefits.

City of Spokane v. Fonnell et al.—Easier access to a park, resulting from the opening of a street, is such a special benefit to property as justifies an assessment against it for the cost of opening the street, like any other circumstance peculiarly enhancing the use, convenience, or enjoyment of property, or in any manner making its environment more desirable.—Supreme Court of Washington, 135 P. R. 211.

Services of Attorney—Implied Contract.

City of Holdenville v. Lawson.—Where an attorney was employed by the town council of an incorporated town of the Indian Territory, although without a formal ordinance or resolution, and thereafter with the knowledge of such council performed the legal services for which the employment was made, and the town accepted and retained the benefits thereof, it is liable to him for the value thereof.—Supreme Court of Oklahoma, 135 P. R. 405.

Paving Contract—Assessment Bills.

Vulcanite Paving Co. v. City of Philadelphia.—Where a paving contract provided that the city should be at no expense for paving, except for intersections and in front of unassessable property, the paving in front of assessable property to be paid for by assessment bills on the abutting property, the contractor's acceptance of assessment bills on unassessable property under a misapprehension as to their legality did not relieve the city from its contract liability, for the cost of pavement in front of such property; the contractor having assumed the risk of the legality only of the bills levied against assessable property.—Supreme Court of Pennsylvania, 86 A. R. 1086.

Street—Injuries—Hydrant.

Berger v. Village of Solvay.—Where a hydrant was moved into a cinder path, used as a sidewalk, as an incident to the improvement of the sidewalk by constructing a concrete walk, but the improvement planned was permitted by the village authorities to be unfinished for months, without guarding the hydrant or warning pedestrians, it was liable for injuries to a pedestrian by running into it at night.—New York Supreme Court, 141 N. Y. S. 995.

Paving in Railroad Tracks—Apportionment of Cost.

McNeil et al. v. City of South Pasadena et al.—Where a city incorporated under the general law had entered into a contract with an interurban railway company, by which the latter, in exchange for a franchise, had agreed to pave one-fourth of a street area, that contract, if valid and enforceable against the company, does not deprive the city of its right to proceed according to law to pave the entire width of the street, even though in such a case the apportionment of the cost would involve difficulties.—Supreme Court of California, 135 P. R. 32.

Sewer Construction—Negligence of Contractor.

T. B. Jones & Co. v. Ferro Concrete Const. Co. et al.—Where the Louisville sewerage commission, adopting plans for the construction of a system of sewers, let sections thereof to separate contractors, it was not liable for the negligence of a contractor causing injury to another contractor, whether the contractors be treated as independent contractors or the servants of the commission, for the funds of the commission created to supply the city with an adequate sewer system could not be devoted to other purposes without violating Const. declaring that no tax levied and collected for one purpose shall be devoted to another.—Court of Appeals of Kentucky, 156 T. W. R. 1060.

Designation of Official Newspapers.

Fagen v. Mayor and Common Council of Hoboken et al.—Act April 8, 1892, providing that it shall be lawful for the common council, with the consent of the mayor, to designate by resolution the official newspaper, or newspapers, published therein in which shall be solely published all official notices, ordinances, etc., is directory, simply permitting a resolution to designate one or more official newspaper, and not obliging cities to designate any official newspaper, and relating to the proper and prompt conduct of business by cities; and the omission of any formality which does not affect the essence of the transaction does not render it illegal, so that the action of the mayor and common council in authorizing or ratifying publication in another newspaper than the one formerly designated by resolution, though accomplished irregularly without formal resolution, was equivalent to the designation of another official newspaper, and authorized payment to such paper for its publication of official notices, etc.—Supreme Court of New Jersey, 86 A. R. 1025.

Indebtedness—Limitation—Charter Provisions.

City of Portland et al. v. Albee, Mayor, et al.—Portland Charter provides that no indebtedness shall be incurred for the acquisition of any public utility which, together with the existing bonded indebtedness of the city, shall exceed 7 per centum of the assessed value of the real and personal property in the city. An amendment to the charter adopted in 1910 created a department of public docks, consisting of a commission which was empowered to issue and dispose of dock bonds to a specified amount. An amendment adopted in May, 1913, provided that the council might issue and sell all bonds theretofore authorized and not sold under certain provisions of the charter, provided that the bonded indebtedness of the city should at no time exceed the amount authorized by section 88 of the charter of 1903. Held, that dock bonds not issued prior to the adoption of the amendment of 1913 could not be issued if the indebtedness of the city would thereby be augmented beyond the limit fixed by section 88, and hence a bidder for such bonds could not compel their issuance by mandamus without showing that the issuance of the bonds would not increase the debt beyond such limit.—Supreme Court of Oregon, 135 P. R. 516.

NEWS OF THE SOCIETIES

Calendar of Meetings.

November 20-22.

ALABAMA GOOD ROADS ASSOCIATION.—Annual meeting, Mobile, Ala. J. A. Rountree, Secretary.

December 1-2.

AMERICAN SOCIETY OF REFRIGERATING ENGINEERS.—Annual meeting, New York City. W. H. Reed, Secretary, 154 Nassau St., New York City.

December 2-5.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—Annual meeting, New York City. Calvin W. Rice, Secretary, 29 W. 39th St., New York City.

December 3-5.

NATIONAL HOUSING ASSOCIATION.—Third National Conference, Cincinnati, O. John Ihlder Fuld, Secretary, 105 East Twenty-second street, New York City.

December 8-11.

ASSOCIATION OF AMERICAN PORTLAND CEMENT MANUFACTURERS.—Annual meeting, New York City. Percy H. Wilson, Secretary, Land Title Building, Philadelphia, Pa.

December 9-12.

AMERICAN ROAD BUILDERS' ASSOCIATION.—Annual Convention, First Regiment Armory, Philadelphia, Pa. E. L. Powers, Secretary, 150 Nassau street, New York City.

December 10-13.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS.—Annual meeting, New York. J. C. Olsen, Secretary, Polytechnic Institute, Brooklyn, N. Y.

January 16.

AMERICAN SOCIETY OF ENGINEERING CONTRACTORS.—Annual meeting, New York City. J. R. Wemlinger, Secretary, 11 Broadway, New York City.

February 16-20.

NATIONAL ASSOCIATION OF CEMENT USERS.—Fourth Annual Convention, Chicago, Ill. Edward E. Krauss, Secretary, Harrison Building, Philadelphia, Pa.

National Housing Association.

The third national conference will be held at Hotel Sinton, Cincinnati, December 3-5. The following is the program:

Wednesday, December 3

Morning—Registration and round-table luncheon. 1.30 P. M.—Robert W. de Forest, presiding. Three-minute reports of progress of the year from delegates. Afternoon session, 3 to 5 P. M.—Robert W. de Forest, presiding. "Garden Cities," paper by George E. Hooker, civic secretary, Chicago City Club. Discussion opened by Warren H. Manning, landscape architect, Cambridge, Mass.; Frederick Pischel, Cook County Real Estate Board, Chicago, Ill.; Richard B. Watrous, secretary American Civic Association, Washington, D. C.; Elmer S. Forbes, chairman Housing Committee, Massachusetts Civic League, Boston, Mass. "Co-operative Housing," paper by Arthur C. Comey, member of Massachusetts Homestead Commission, Cambridge, Mass. Discussion opened by W. S. B. Armstrong, secretary Toronto Housing Co., Toronto, Ont.; F. W. Bird, manufacturer, East Walpole, Mass.; Augustus L. Thorndike, bank commissioner, Boston, Mass.; W. H. Schuchardt, chairman Joint Housing Committee, Milwaukee, Wis. Evening session, 8 P. M.—Address of welcome by Mayor Henry T. Hunt. Response on behalf of the National Housing Association by Robert W. de Forest, president of the National Housing Association, New

York City. Brief report on progress of the year. Reception.

Thursday, December 4

Morning Session—"How to Get Cheap Houses," paper by G. Frank Beer, president Toronto Housing Co., Toronto, Ont. Discussion opened by J. G. Schmidlapp, builder of wage-earners' dwellings, Cincinnati, O.; H. F. Cellarius, secretary United States League of Building and Loan Associations, Cincinnati, O.; William Drummond, architect, Chicago, Ill.; Robert A. Crosby, New Haven Improved Housing Association, New Haven, Conn. "The Problem of the Old House," paper by John R. Richards, chief housing inspector, Cincinnati, O. Discussion opened by B. J. Newman, secretary Philadelphia Housing Commission, Philadelphia, Pa.; G. A. Weber, secretary Society for the Betterment of Housing and Living Conditions, Richmond, Va.; John J. Murphy, commissioner of the Tenement House Department, New York City; Miss Edith Abbott, director School of Civics and Philanthropy, Chicago, Ill. Luncheon. Address on "Publicity and Housing Reform" by Richard H. Waldo, Associated Advertising Clubs of America. Afternoon session, 3 P. M.—Automobile trip to inspect Cincinnati's housing conditions. Evening session, 8 P. M.—"Restricted Residence and Business Districts in German Cities," paper by Frank B. Williams, chairman City Planning Committee, City Club, New York City. Discussion opened by Charles B. Ball, chief sanitary inspector, Chicago, Ill.; E. T. Hartman, secretary Massachusetts Civic League, Boston, Mass.; Virgil D. Allen, building inspector, Cleveland, O.; Otto M. Eidlitz, builder and contractor, New York City. "Housing of Workers at Industrial Plants," paper by Frank H. Crockard, Tennessee Coal, Iron and Railway Co., Birmingham, Ala. Discussion opened by C. R. Johnson, Goodyear Tire & Rubber Co., Akron, O.; C. R. Hook, American Rolling Mill Co., Middletown, O.; G. R. Taylor, "The Survey," Chicago, Ill.; E. L. Hichens, Cincinnati, O.

Friday, December 5

Morning session, 10 A. M.—Open discussion. No papers. Free discussion in five-minute talks on the following questions: 1. What is the Housing Problem? 2. How can we keep our city a City of Homes? 3. How shall we enforce our Housing Laws? Round-table luncheon. "Cincinnati's Housing Problems" (organized by local people in co-operation with the National Housing Association). Afternoon session—"Transit and Housing," paper by Henry C. Wright, chairman Transit Committee of the City Club, New York City. Discussion opened by Andrew Wright Crawford, Philadelphia, Pa.; Milo R. Maltbie, Public Service Commission, New York City;

Edward H. Bennett, Chicago, Ill.; John P. Fox, New York City. "Health Department Organization and Housing," paper by Charles J. Hastings, M.D., medical health officer, Toronto, Ont. Discussion opened by George B. Young, commissioner of health, Chicago, Ill.; Frank W. Wright, M.D., health officer, New Haven, Conn.; Robert E. Todd, secretary Detroit Housing Commission, Detroit, Mich.; Miss Mildred Chadsey, superintendent of sanitation, Cleveland, O. Evening session, 7 P. M.—Banquet at the Hotel Sinton.

New Jersey Association of Chiefs of Police.

The monthly meeting of the Association of Chiefs of Police was held in Carlstadt, November 6. Twenty-seven heads of departments were present. At the conclusion of the meeting Chief George H. Bellisheim entertained the visitors at dinner. The December meeting will be held at the assembly room of police headquarters in Passaic. The cities represented were: East Rutherford, Rutherford, Clifton, Passaic, Paterson, Garfield, West Hoboken, Newark, Jersey City, Elizabeth, New Brunswick, Clinton, Edgewater, Hackensack, Nutley and Englewood.

The American Society of Mechanical Engineers.

The annual meeting will be held at 29 West 39th street, New York, December 2-5. Among the papers to be presented will be the following: "Notes on the Further Operation of Large Boilers of the Detroit Edison Company," by J. W. Parker; "On Setting Tasks for Firemen and Maintaining High Efficiency in Boiler Plants," by Walter N. Polakov; "Properties of Steam," by H. C. H. Heck; "Efficiency of Rope Driving as a Means of Power Transmission," by E. H. Ahara; "Pitot Tubes for Gas Measurement," by W. C. Rouse; "Tests upon the Transmission of Heat in Vacuum Evaporators," by E. W. Kerr; "The Art of Enameling, or the Coating of Steel and Iron with Glass," by Raymond F. Nailler; "A New Process for Cleaning Producer Gas," by H. F. Smith; "The Fire Hazard in Turbo-Generators," by G. S. Lawler; "Extinguishing Fires in Oils and Volatile Liquids," by Edw. A. Barrier; "Control of Automatic Sprinkler Valves," by Fred J. Miller.

Excursions will be held at various times during the meeting. Below is given a list of companies and public works which have offered their hospitality to the membership of the society:

Ingersoll-Rand Co., Philipsburg, N. J.; Waterside Station, N. Y. Edison Co.; Interborough Rapid Transit Co., Ellis Island Immigrant Station, Hamburg-American Line, Grand Central Terminal, Pennsylvania Terminal, New York H. P. Pumping Station, Brooklyn Navy Yard, National Lead Co., Sidewater Paper Co., E. W. Bliss Co., Kensico Dam, Valhalla, H. R. Worthington Co., Westinghouse Lamp Works, Harrison Lamp Works, De La Vergne Machine Co., International

Motor Co., Pond Machine & Tool Co., Davis-Bournonville Co., Manhattan Rubber Co., Goldschmidt Thermit Co., J. H. Williams & Co., Crocker-Wheeler Co., Port Morris Power Station, Brooklyn Rapid Transit Power Station.

The attention of the members who will attend the annual meeting is called to the International Exposition of Safety and Sanitation which will be held under the auspices of the American Museum of Safety in the New Grand Central Palace, New York, from December 11 to 20. It is expected that the exposition will represent the progress in America of safety and sanitation, covering accident prevention, industrial, city, home and social hygiene and mutuality enterprises. This will be the first comprehensive exposition of this nature held in America and by special act of Congress the foreign exhibits will be admitted free of duty.

PERSONALS

The following officials have been elected in Ohio:

Girard—Mayor Thomas G. Blackstone, re-elected.
Mansfield—President of Council, Geo. Lowery, re-elected.
Grand Rapids—Mayor, J. C. Croll.
Lyons—Mayor, Davis Brown.
Leipsic—Board of Public Affairs, M. A. Bell, C. W. Fogle, J. A. Parsons.
Elmore—John B. Steinkamp, re-elected; Board of Public Affairs, Ben Miller, Burt Rice and F. H. Williams.
Sylvania—Mayor, E. G. Howard.
Bradner—Mayor, O. J. Mitchell; Board of Public Affairs, Wm. Heckart, Ira Chronister, John Phister.
Toledo—Vice-mayor, Philip Hassenzahl.
McClure—Mayor, Zeph Kinney.
Columbus Grove—Mayor, W. G. Poast; Board of Public Affairs, H. F. Light, Homer R. Day, John H. Eversole.
Clyde—Mayor Benfer, re-elected.
Bryan—Mayor, O. W. Gleason.
Massillon—President of Council, Harvey Seaman.
Hamilton—President of Council, E. G. Ruder.
Toledo—Members of Charter Commission, Isaac Kinsey, John M. Killits, J. K. Hamilton, John Ulmer, Brand Whitlock, Sylvester Lamb, G. D. Hartman, Thomas Gifford, Marshall Sheppey, W. B. Guitteau, F. H. Foster, S. O. Richardson, James C. Price, D. H. James, A. W. Boardman.
Deshler—Mayor, P. W. Tussing.
Hubbard—Mayor, Charles F. White.
Bloomdale—Mayor, David L. Miller.
Lima—President of Council, Miles Standish.
Ada—Mayor, Dr. West Montgomery.
Findlay—President of Council, Dr. M. Carrothers.
Edgerton—Mayor, Hiram Long.
Weston—Mayor, S. O. Wood.
McComb—Mayor, E. L. E. Mumma.
Oberlin—Mayor Yocum.
Risingsun—Mayor, George R. Elliott.
Fayette—Mayor, Claude G. Elliott.
Republic—Mayor, D. B. Crissell.
Gibsonbury—Mayor, C. E. Moore.

Springfield—Commisisoners, C. F. McGilvray, B. J. Westcott, A. L. Beehain, P. J. Shouplin, John J. Hopper.

Niles—Mayor, Frank J. Bryan.
Roscoe—Mayor, Alonzo Clark.
Piqua—President of Council, J. H. Clark.
Dayton—Mayor, George W. Shroyer; commisisoners, A. I. Mendenhall, John R. Flotson, John A. McGee, J. M. Switzer.
Eaton—Mayor, Stanley B. Foss.
New Paris—Mayor, W. A. McClure.
Covington—Mayor, George Flanner.
Brooksville—Mayor, J. W. Jenks.
West Carrollton—Mayor, C. H. Blose; Board of Public Affairs, A. H. Manning, Matt Wolf, Ed Randall.
West Alexandria—Mayor, H. M. Brewer.
Oakwood—Mayor, James Irvin.
Camden—Mayor, Felix Marsh.
Greenville—Mayor, E. E. Alderwood.
Pleasant Hill—Mayor, W. Whitmer.
Lewisburg—Mayor, G. M. Kumler.
Waynesville—Mayor, O. J. Edwards.
Germantown—Mayor, L. S. Crickmore.
Miamisburg—Mayor, W. D. Jansen.
Franklin—Mayor, Charles Munger.
Phillipsburg—Mayor, Chas. Duckwell.
Tippecanoe City—Mayor, S. E. Smith.
Arcanum—Mayor, C. C. Taylor.

The following mayors have been elected in Indiana:

Alexandria—James S. Wales.
Anderson—Jesse H. Mellett.
Angola—Dr. Creel.
Attica—Will B. Reed.
Auburn—J. Y. W. McClellan.
Aurora—Thomas Carmichael.
Batesville—Dr. Charles W. Gibson.
Bedford—Albert J. Fields.
Bloomington—John G. Harris.
Bluffton—John Mock.
Booneville—Jasper H. Thornburg.
Brazil—John Jones.
Butler—Dr. A. A. Cramer.
Cannelton—Mr. Truempy.
Columbia City—Frank L. Meyers.
Columbus—Karl H. Volland.
Connersville—Philip Braun.
Covington—Thomas McGeorge.
Crawfordsville—William C. Murphy.
Crown Point—Dr. E. A. Krost.
Decatur—Charles Christian.
Delphi—William C. Smith.
Elkhart—Frank Smith.
Elwood—F. M. Harbit.
Evansville—Benjamin Bosse.
Frankfort—Oliver Gard.
Franklin—George W. Wyrick.
Ft. Wayne—W. J. Hosey.
Garrett—Dr. J. A. Clevenger.
Gary—R. O. Johnson.
Gas City—Dr. L. H. Conley.
Greencastle—Walter Cooper.
Greensburg—James E. Mendenhall.
Greenfield—Jonathan Q. Johnson.
Goshen—S. F. Spohn.
Hammond—George D. Smalley.
Hartford City—Ethan W. Secrest.
Huntington—Pat. M. McCarty.
Huntingburg—Philip Bamberger.
Jeffersonville—Ernest Rauth.
Kendallville—C. M. Case.
Kokomo—George W. Stidger.
Indianapolis—Joseph E. Bell.
Lafayette—Thomas Bauer.

Laporte—David S. McGill.
Lawrenceburg—Estal G. Bielby.
Lebanon—John B. Snelby.
Ligonier—Mr. Shutt.
Linton—Joseph Turner.
Logansport—Frank B. Guthrie.
Madison—James E. Crozier.
Marion—James O. Batchelor.
Martinsville—John W. Anderson.
Michigan City—Martin T. Kruger.
Mishawaka—Ralph W. Gaylor.
Mitchell—Calvin Faris.
Monticello—B. F. Carr.
Montpelier—T. C. Neal.
Mt. Vernon—Alonzo Grant.
Muncie—Dr. R. H. Bunch.
Newcastle—J. Leb Watkins.
New Albany—Robert W. Morris.
Noblesville—Dr. E. C. Loehr.
North Vernon—J. D. Cone.
Peru—William A. Hammond.
Portland—C. A. Paddock.
Plymouth—Joseph Whitsell.
Princeton—Doris Head.
Rensselaer—Charles G. Spittler.
Richmond—Will J. Robbins.
Rising Sun—Samuel W. Seward.
Rochester—William Brinkman.
Rockport—James Rimstidt.
Rushville—Clanta L. Debout.
Seymour—John A. Ross.
Shelbyville—Henry Schoelch.
South Bend—Fred W. Keller.
Sullivan—Robert Calvert.
Tell City—Fred G. Heingle.
Terre Haute—Donn M. Roberts.
Tipton—Joseph A. Lewis.
Union City—Charles Reitenour.
Valparaiso—P. L. Sisson.
Veedersburg—Tom Dodson.
Vincennes—James M. House.
Wabash—Dr. James Wilson.
Warsaw—B. F. Richardson.
Washington—John W. McCarty.
Winchester—Harvey E. McNees.
Whiting—Walter Schrage.

The following officials have been elected in Pennsylvania:

Meadville—Mayor, John E. Reynolds.
Mt. Carmel—Chief Burgess, John Hancock.
Pittsburgh—Mayor, Jos. G. Armstrong.
Pottsville—Mayor, P. S. Mortimer, Jr.
Scranton—Mayor, E. B. Jermyn.
Reading—Councilmen: George F. Eisenbrown, Peter S. Holl, E. Frank Ruth, Edward J. Morris.
Shamokin—Chief Burgess, John Drumpeisersi.
South Bethlehem—Mayor, Dr. Mitchell Walters; Councilmen: Captain A. W. Leh, Charles Drumbore, Adam Brinker.
Stroudsburg—Chief Burgess, Clarence Edinger.
Sunbury—Chief Burgess, Henry Heckerts.
Uniontown—Burgess, Robert B. Warman.
Waynesburg, Chief Burgess, A. A. Purman.
Ridgway—Chief Burgess, Elder M. Campbell.
New Castle—Councilmen: Judson Barnett, David Ramsey, Joseph Gilmore and Sobieski Lusk.
Somerset—Burgess, William H. Weber.
Beaver Falls—Mayor, J. E. McClure.

NEW APPLIANCES

BRIDGE AND CULVERT FORMS.

Merillat Cores and Forms Are Adjustable to Fifty Per Cent Variations in Size.

The Merillat Culvert Core Co., Winfield, Ia., make a steel culvert form which is collapsible, like many other forms, but has the advantage of adjustability to unusual variations in diameter. The same form can be used for 20 and 48-inch culverts or for any size between. To aid in transportation of the form, it is equipped with an ingenious truck, the front wheels of which are shown in the illustration. The cores are made in eight and ten foot lengths and are always used in sets of two or more, so that 16, 18 and 20-ft. culverts can be built at one time, by using 8-ft. sections, an 8 and a 10 or two tens. The cores are substantially built, all the operating parts being of malleable iron. All parts that come in contact with concrete are galvanized.

To make an ordinary road culvert with a Merillat form a trench of the desired size is dug across the road. A layer of concrete is shovelled into the bottom of the ditch. The core is placed upon this base and expanded to the desired size, by turning a handwheel. At any size it is always round, locked and braced. Concrete is then shovelled around and over the core. After the concrete has hardened, by simply reversing the hand wheel the form is collapsed and then removed. There remains a symmetrical substantial concrete culvert in one solid piece.

The Board of Supervisors, De Soto county, Miss., have furnished the following figures of the cost of a culvert built by them in one day's time.

This culvert is 42 inches in diameter inside, 25 ft. long, with wing walls 10 ft. long, 6 ft. high and 10 ins. thick, at both ends of the culvert.

48 bags of cement at 35 cts.....	\$16.80
10 cu. yds. gravel at \$1.35.....	13.50
1 foreman, 1 day at \$5.....	5.00
1 team and wagon, 1 day, at \$3.50	3.50
5 laborers, 1 day each, at \$1.50...	7.50
Lumber	2.50
Incidental expense	1.00

Total.....\$49.80

The Merillat adjustable bridge form, also illustrated, is adjustable to diameters of from 6 to 12 ft. It consists of a series of adjustable arches built of steel angles and malleable iron and a cover of heavy steel sheets reinforced with angle irons. No single part of the form is too heavy to be handled.

The bridge committee of Adams County, Nebraska, have supplied the following figures as to the cost of a

was removed from the finished bridge in five minutes.

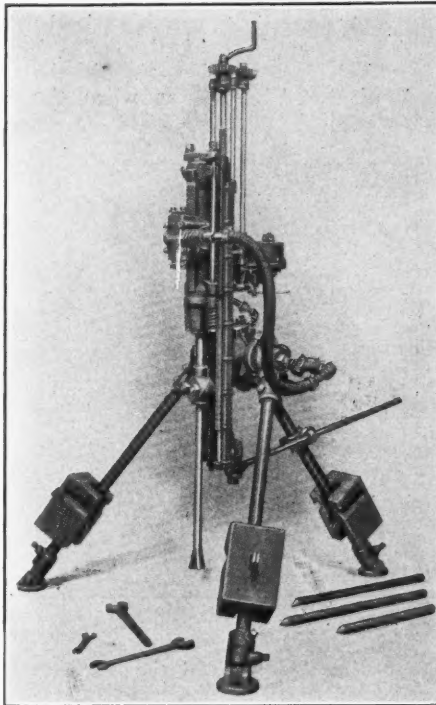
Heretofore, bridges of approximately the same size, have been costing all the way from \$400 to \$500.

AN ENGINE FEED ROCK DRILL.

Sullivan Company Makes Drill With Engine for Hoisting and Lowering Drill Cylinder.

For excavating where soft rock makes it possible to drill deeper than usual before steel requires re-sharpening, a longer feed or run is desirable than may be secured by the ordinary tripod drill. To meet this contingency the Sullivan Machinery Company, Chicago, Ill., have placed on the market a new drill, the F P-33. In valve motion and general features of construction, the F P-33 drill is identical with the standard F P-3 Hyspeed Tripod machine. The cylinder, however, stands out from the shell on its ways an unusual distance, so as to permit the chuck to revolve freely when drawn back in front of the gibs. The shell and feed screw are of unusual length. They provide a run $4\frac{1}{2}$ ft. long, permitting drill steel to be used having a variation in length of 4 ft. The feed screw is extended below the threads, terminating in a bearing.

The second requisite in a drill of this character, namely, a time and labor-saving device for feeding and for hoisting the drill steel from the drill hole, is provided by means of a small two-cylinder reversing hoisting engine, which is secured to the back of the shell and geared direct to the long feed screw. This in turn is suspended from a ball-bearing in the yoke at the back of the standard. The gear wheel on the engine crank shaft is fitted with a friction device, which obviates undue strain or shock to the mechanism in case any obstructions should be caught in the drill shell or gearing. A crank handle is provided, so that the drill may be raised or lowered by hand, if necessary, and the gear just referred to may be disengaged with a wrench, so that it will run idle when necessary to



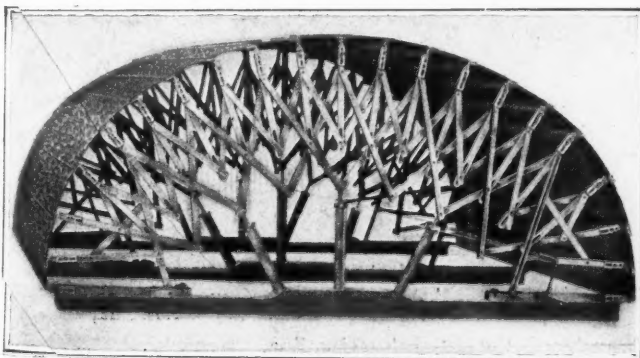
NEW SULLIVAN DRILL.

bridge built by them with one of these forms.

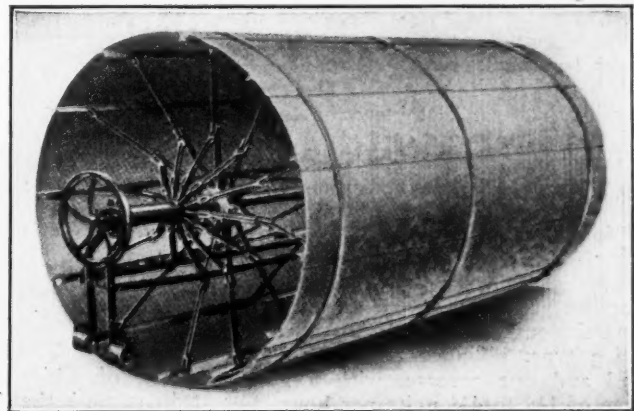
The bridge is a single 12-ft. span, $5\frac{1}{2}$ ft. high with a base 10 ins. thick. The arch is 14 ins. thick at the bottom and 10 ins. at the top. There are two 28-ft. wing walls, $7\frac{1}{2}$ ft. high and 10 ins. thick.

The total cost of the bridge, including the hauling of forms and material, the cost of labor and material, including reinforcing, etc., was approximately \$225.

The entire form



BRIDGE FORM.



CULVERT FORM.

resort to hand feeding. This makes it unnecessary for the operator to turn the moving parts of the engine when cranking by hand.

The feed engine has two oscillating cylinders, and the throttle and valve are so arranged that the engine runs equally well in either direction. The maximum speed of raising or lowering is 16 ft. per minute, so that a quarter of a minute is all that is necessary to run the drill cylinder to the top of the shell.

The shell is of the regular solid gib type, and is used with the Sullivan U-9 tripod, which has an unusually large trunnion. In order to secure additional stability, the lower end of the shell is fitted with a lug, to which is securely bolted a brace rod, reaching to the back leg of the tripod, as shown in the photograph. The tripod may be equipped with leg points, as ordinarily furnished, or with foot-plates, which may be fastened by means of lag screws to a heavy timber frame-work, where such an apparatus is preferable.

Connections to the drill and feed engine are self-contained, being attached to the rear of the tripod, so that only one line of hose from the pipe line is necessary. The feed engine and drill have separate throttle valves, the small globe valve being provided for the feed engine, so that the speed of hoisting or lowering may be graduated to a nicety.

New Gasoline Driven Tractor.

The Wallis Tractor Company, of Racine, Wis., is now putting on the market a gasoline-driven tractor which has a number of novel features, chief of which are its narrowness of tread (92-in.) permitting its use within small clearances, roller bearing transmission, differential wheel brakes operated independently, absolute dust-proofness, and extreme accessibility of engine and transmission.

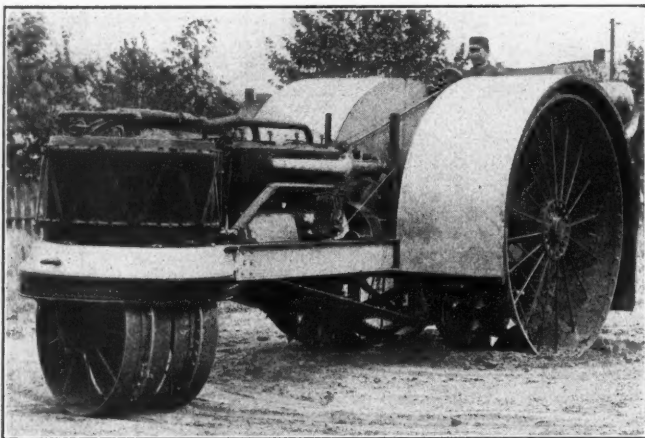
The machine is made in two sizes—15-25 H.P. weighing 7,500 lbs. and 30-50 H.P. weighing 16,000 lbs. The accompanying illustration shows the larger tractor with top removed. As will be noted, the drive wheels are very high, 7 ft. in diameter; the engine and transmission are carried so as to be accessible from both sides, and the front wheels (42 ins. in diameter) are so mounted that the machine can turn within its own wheelbase (12 ft.). The motor for the larger machine has 6½x8-in. cylinders, giving 30 H.P. tractive effort and 50 brake horsepower. The transmission is of the sliding gear selective type, giving three speeds forward and one reverse, with a speed range of 1½ to 4¾ units per hour. All the engine and transmission mechan-

ism is housed in dustproof casings, one of the favorite tricks in demonstrating the machine being to throw shovelfuls of dust on it.

The fuel tanks have a capacity of 60 gals., while the radiator, mounted over the front wheels, as shown in the photograph, has a cooling surface of 6,647.5 sq. ins. and 460 ft. of tubing. No water tank is provided, since the capacity of the radiator has been found ample for cooling purposes.

The machine may be steered by hand or engine power, the latter being accomplished through a pair of friction cones, either of which may be held against a fiber-covered cone on the main shaft.

The tractor is spring mounted both front and rear, thus avoiding shocks by the irregularities of the ground. The spiral springs also absorb the shock of the driving gear when the load is applied.



WALLIS TRACTOR.

As ordinarily equipped the machine is designed primarily for tractor service, but heavy cast iron rims are provided for the drivers and certain changes are made in front wheel design when the machine is to be used for a road roller. The width of the drivers is 30 ins. and of the front wheels (together) 24 ins.

Throughout high strength materials such as cast steel instead of cast iron and chrome nickel steel instead of machine steel, are used wherever practicable, thus enabling the weight to be kept down to a minimum.

INDUSTRIAL NEWS

Cast Iron Pipe.—Birmingham. Plants are kept reasonably busy on short orders. Quotations: 4-inch, \$22; 6-inch and up, \$20. Chicago. Municipal inquiries are scarce. Quotations: 4-inch, \$28; 6 to 12-inch, \$26; 16-inch and up, \$25. New York. No public lettings are in sight and there is little private buying. Quotations: 6-inch, \$23 to \$23.50.

Firestone Tires.—A. T. Smith, formerly of Chicago, has been named manager of the local branch of the Firestone Tire & Rubber Company,

to succeed R. D. Barr, who was killed in an automobile accident in July. The new manager has spent considerable time at the Firestone factory in Akron familiarizing himself with every detail of the tire business. Mr. Smith has been with the Firestone company for years.

Lead.—Market is quiet. New York, 4.35c.; St. Louis, 4.20c.

Cement Show.—With about three months left before the opening of the Cement Show at the Coliseum, Chicago, Ill., February 12, all but half a dozen spaces have been taken by the exhibitors. Contracts have already been awarded for the construction of the principal features of the booths. Instead of the usual arrangements of posts and partitions, large figures and ornamental signposts will be used with no partition at the back to separate the booths. The signboards and standards will be cast in plaster, according to an ornate design and will support an electric light for each booth. During the week of the show the American Concrete Institute and the National Builders' Supply Association will hold their conventions, besides a conference under the auspices of the manager of the show on concrete roads. The Illinois Association of Municipal Contractors will also meet in Chicago during the week. The office of the Cement Products Exhibition Company is 72 West Adams street, Chicago, Ill.

Road Machinery.—At the recent state fair at Macon, Ga., the exhibit of W. A. Neal & Son, Atlanta, attracted much attention. It consisted of two Pioneer gasoline traction engines, a 15 and a 30-horsepower, and several Russell road graders, scarifiers, plows, etc. Testimony regarding the use of these outfits was given by a number of commissioners who had used them. Commissioner J. A. F. Brown, Carrollton, said that with the large Pioneer, three Russell graders and a scarifier he had gone over every mile of road in Carrollton county, 2,500 miles in all. One day recently, 12 miles were worked at a cost of \$2 per mile. Since purchasing the machinery \$6,000 had been saved as compared with the cost of doing the work with mules and the work has been done better. B. L. Redwine, Newnan, said Coweta county was using two Pioneer tractors, six Russell graders and a scarifier. He estimates the saving at \$5,000 per year on a road mileage of 1,400. Commissioner R. J. Freeman, De Kalb county, estimated the saving of the road outfit at 60 per cent. Chairman J. B. Wing, of Rosevell, Cobb county, gave similar testimony.

W. A. Neal & Son opened offices in Atlanta five years ago. Now they sell road machinery in North Carolina, South Carolina, Georgia, Alabama, Florida and Tennessee.

ADVANCE CONTRACT NEWS

ADVANCED INFORMATION BIDS ASKED FOR

CONTRACTS AWARDED ITEMIZED PRICES

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also correction of any errors discovered.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREETS AND ROADS				
O.	Tiffin	Nov. 22	Macadam paving, 3,500 ft.; 7,900 ft. repairs	J. E. Hershberger, Co. Aud.
Tex.	Ft. Worth	9 a.m., Nov. 22	Grading	F. J. Von Zuben, City Engr.
Ind.	Rensselaer	8 p.m., Nov. 24	Brick, Dolarway or asphaltic macadam, one street	Chas. Morlan, City Clk.
N. Y.	Tonawanda	Nov. 24	6-inch reinforced concrete pavement	Bd. Puk. Wks.
Pa.	Marcus Hook	8 p.m., Nov. 24	Brick block pavement	C. H. Casey, Ch. Str. Com.
La.	Columbia	Nov. 24	Four miles highway	W. E. Atkinson, St. Hy. Engr.
Cal.	Santa Monica	Nov. 24	Grading and oil paving; cement sidewalks and curbs	G. M. Murray, City Clk.
La.	New Orleans	Nov. 24	Sixteen miles of road	W. E. Atkinson, St. Bd. Engrs.
Mo.	Independence	Nov. 24	Grading	Co. Clk.
Man.	Kirkfield	Nov. 25	Sheet asphalt, 7½ miles, 16 and 24 ft. wide	F. Ness, Clk.
Minn.	Grand Rapids	10 a.m., Nov. 25	County road No. 37	M. A. Spang, Co. Aud.
S. D.	Columbia	10 a.m., Nov. 25	Concrete curb, 22,000 lin. ft.; sidewalk paving, 6,650 sq. yds.	J. McNeal, City Engr.
Md.	Cambridge	Nov. 25	Section of State Aid Highway, 2.25 miles	W. H. Spedden, Co. Clk.
Ill.	Ottawa	Nov. 25	Paving	Bd. Loc. Imps.
Cal.	Long Beach	Nov. 26	Grading and paving	H. B. Riley, City Clk.
N. C.	Charlotte	3 p.m., Nov. 26	Repairing paving	A. H. Wearn, City Clk.
Mo.	Independence	Nov. 26	Grading and draining road	County Clerk.
N. Y.	Brooklyn	11 a.m., Nov. 26	Street improvements	L. H. Pounds, Boro. Pres.
O.	Jefferson	Nov. 28	Grading and paving	H. Johnson, Clk.
Ind.	Fort Wayne	10 a.m., Nov. 29	Improvement of highways	C. H. Brown, Co. Aud.
Ariz.	Tucson	Nov. 29	Bitulithic pavement	J. M. Rauthrauff, City Engr.
Ill.	Elgin	About Dec. 1	43,000 sq. yds. brick paving	A. Fehrman, Mayor.
Ind.	Tipton	10 a.m., Dec. 1	Two gravel or stone roads	J. H. Traubberger, Co. Aud.
Ind.	Portland	10 a.m., Dec. 1	Grading, draining and paving	J. Bonifas, Co. Aud.
Miss.	New Albany	Dec. 1	Repairing public roads for four years	C. S. Cullens, Co. Clk.
Wash.	Olympia	Dec. 1	29 miles highway	J. W. Roberts, Sec. St. Hy. Cmr.
Ill.	Ottawa	about Dec. 1	Resurfacing with brick, \$60,000	Geo. Farnsworth, Engr.
Ind.	Lawrenceburg	noon, Dec. 2	Grading, draining and paving	W. S. Fagaly, Co. Aud.
Ind.	Corydon	2 p.m., Dec. 2	Improvement of public highways	J. L. O'Bannon, Co. Aud.
Ind.	Brownstown	1 p.m., Dec. 3	Constructing 3,557 ft. road	A. Luedtke, Co. Aud.
La.	Lake Charles	Dec. 11	Vitrified fibre brick paving, 38,000 yds.	G. L. Rilling, Mayor.
Ind.	South Bend	About Dec. 15	Grading, draining and paving	C. Sedgwick, Co. Aud.
Ind.	Indianapolis	2 p.m., Dec. 15	Free gravel road	W. T. Patten, Co. Aud.
Fla.	Jacksonville	3 p.m., Dec. 15	Asphaltic concrete, 22,430; vitrified block, 31,964 sq. yds.	L. D. Smoot, Chief Engr.
O.	Columbus	Dec. 16	Improvement of Angola Rd.	Jas. R. Marker, St. Hwy. Comr.
SEWERAGE				
Pa.	Harrisburg	noon, Nov. 22	Sewers in 3 streets	E. E. Fritchey, Comr.
Wis.	Rhineland	2 p.m., Nov. 22	Sewer	Gust Swedburg, City Clk.
Wis.	Manitowoc	10 a.m., Nov. 22	Sewer pipe, 945 lin. ft. 8-inch, etc.	A. Reichert, City Clk.
Minn.	Pipestone	8 p.m., Nov. 24	Sewer in District No. 28	S. W. Funk, City Recorder.
Ill.	Galesburg	4 p.m., Nov. 24	Vitrified pipe sewer, 3,020 lin. ft., etc.	W. O. Bradley, Bd. Loc. Imps.
N. J.	Haddonfield	8 p.m., Nov. 24	Storm sewers	A. Klymer, Boro. Clk.
Minn.	St. Peter	10 a.m., Nov. 24	Tile ditch No. 53	W. H. Holz, Co. Aud.
Ia.	Lehigh	9 a.m., Nov. 24	Sanitary sewer	R. A. Dubois, City Clk.
Kans.	Sallina	Nov. 24	Sewer line	City Council
Ga.	Savannah	Nov. 25	Drainage system, 70 miles; pumping station	R. S. Cone, Ch. Board
N. D.	Fargo	5 p.m., Nov. 25	Lateral sewer, 12 inch	A. R. Watkins, City Aud.
N. J.	Woodbridge	8.30 p.m., Nov. 25	8-inch vitrified pipe sewer	Andrew Keyes, Town Clk.
O.	Bucyrus	Nov. 25	Five sewers, about 15,000 lin. ft.	F. L. Niederheiser, City Engr.
N. Y.	Brooklyn	11 a.m., Nov. 26	Sewers	L. H. Pounds, Boro. Pres.
O.	Bucyrus	noon, Nov. 26	Five sewers, 1,500 lin. ft.	J. Leifer, Dir. P. S.
N. J.	Trenton	2.30 p.m., Nov. 26	Sewer construction	Frank Thompson, City Clk.
Ind.	Marion	8.30 a.m., Nov. 28	Sewer	F. R. Heck, Clk.
N. D.	Bismarck	8 p.m., Dec. 1	Lateral sewer	R. H. Thistlethwaite, Co. Aud.
Fla.	Tampa	Dec. 2	Sewerage system	Bd. Comrs. Pub. Wks.
Va.	Manassas	7 p.m., Dec. 3	Sewer system	N. W. Davis, Engr.
Mont.	Butte	5 p.m., Dec. 3	Sanitary sewer	W. A. Willis, City Clk.
Ind.	South Bend	10.30 a.m., Dec. 5	Pipe sewer	A. P. Perley, Clk.
N. J.	Newark	2 p.m., Dec. 9	Section 3 of outfall pressure tunnel	J. S. Gibson, Clk., Passaic Val. Sew. Comrs.
La.	Lake Charles	Dec. 11	3 miles of storm sewer	G. L. Rilling, Mayor.
Brazil	Rio Grande do Sul	Dec. 15	Sewerage system	Sr. Coronel Intendente Municipal.
N. J.	Newark	Dec. 16	Section 3 of the Passaic Valley Trunk Sewer	J. S. Gibson, Clk., Passaic Val. Sew. Comrs.
Fla.	Tampa	Dec. 16	Sewage system	City Clerk.
O.	Canon	10 a.m., Dec. 17	Mohler ditch	C. L. Stoner, Clk.
N. Y.	Brooklyn	Dec. 19	Sewers in several streets	L. H. Pounds, Boro. Pres.
O.	Nelsonville	about Jan. 1	6 to 14-foot sanitary sewer; estimated cost, \$85,000	Park Sniffon, Engr.
Kan.	Atchinson	About Jan. 1	Sewer, 4,000 ft. 6, 8 and 10-inch	F. L. Altman, City Engr.
La.	New Orleans	Jan. 6	Pumps, 1 centrifugal, 11 screw; discharge pipes, gates, &c.	G. C. Earl, Gen. Supt.
WATER SUPPLY				
O.	Cleveland	Nov. 22	Motor driven centrifugal pump	W. H. Kirby, Sec. Bd. P. S.
Minn.	Millville	6 p.m., Nov. 24	Ten H.P. pumping engine	T. J. Norris, Vil. Recorder.
Minn.	Rochester	Nov. 24	Piping, valves, etc.	Chas. L. Pillsburg, Co. Engr., Minneapolis.
Neb.	Silver Creek	Nov. 24	Water works	D. F. Davis, City Clk.
O.	Caldwell	Nov. 24	Remodelling water works and lighting plant	T. P. Glidden, Clk.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Ont., Toronto	Nov. 25	Installation of one or more pumping engines, etc.	H. C. Hocken, Mayor.	
N. Y., Brooklyn	Nov. 25	Water supplies	Navy Dept., Wash, D. C.	
W. Va., Kingwood	Dec. 1	Steel stand pipe	Glendening & Funderburk, Engr.	
Cal., Newport Beach	About Dec. 1	Pipe line	W. T. Webber, City Engr.	
Minn., Carlton	8 p.m., Dec. 1	Drilling well	Albert H. Lee.	
Mass., Lynn	10 a.m., Dec. 2	Completion and construction of dam	W. L. Vennard, City Engr.	
Va., Manassas	7 p.m., Dec. 3	Water works plant	M. W. Davis, Engr.	
O., Columbus	noon, Dec. 8	Water main, 8-inch	J. Scott, Clk. Bd. Co. Comrs.	
Brazil, Rio Grande do Sul	Dec. 15	Water works system	Sr. Coronel Intendente Muni-	
Mont., Great Falls	Dec. 18	Concrete irrigation canal	U. S. Reclamation Service	
New Zealand, Hastings	Dec. 15	Turbo pumps, motors, suction pipe, etc.	Town Clk.	
Brazil, Therezopolis	Dec. 23	Water works and sewage systems	Municipl Cham., Therezopolis.	
Kans., Lakin	Jan. 1	Digging of artesian well	Kearney Co. Comrs.	
Ind., Mitchell	About Jan. 1	Water and electric light plant	A. H. Kennedy, Rockport.	
La., New Orleans	noon, Jan. 6	Pumps and other water supplies	F. S. Shields, Sec. Sew. & Wat. Bd.	
Ia., Winfield	About Jan. 15	Water system	J. O. Kilbourne, City Clk.	
LIGHTING AND POWER				
La., Baton Rouge	1 p.m., Nov. 22	Lighting city with electricity	City Council.	
D. C., Washington	10.30 a.m., Nov. 22	Electrical apparatus	Maj. F. C. Boggs, Gen. Pur. O.	
O., Caldwell	Nov. 24	Remodelling lighting plant	T. P. Glidden, Clk.	
Neb., Silver Creek	Nov. 24	Electric light plant	D. F. Davis, City Clk.	
N. Y., Little Neck, L. I.	Nov. 24	Electrical equipment	C. B. J. Snyder, Supt. Sch. Bld.	
Pa., Aspinwall	7.30 p.m., Nov. 24	Electrical supplies	H. C. Lea, Supt. Pub. Wks.	
Minn., St. Paul	2 p.m., Nov. 24	Electrical equipment	C. L. Pillsbury, Co. Engr., Minneapolis.	
N. D., Grand Forks	10 a.m., Nov. 25	Conduits	Hans Anderson, Co. 9ud.	
Ia., Pilot Mound	8 p.m., Nov. 25	Electric light distribution system	W. H. Grover, Engr., Ames.	
N. D., Fargo	5 p.m., Nov. 25	White way	A. R. Watkins, City Aud.	
D. C., Washington	Nov. 27	Conduit, wires and fixtures at P. O.	O. Wenderoth, Supv. Arch.	
Mich., Kalamazoo	Nov. 28	Conduit and wiring system	Treas. Dept.	
Man., Winnipeg	11 a.m., Dec. 1	Meters for light and power plant	M. Peterson, Sec. Bd. Control.	
Miss., Natchez	Dec. 3	Public lighting contract	Lt. & Wtr. Com.	
Va., Manassas	7 p.m., Dec. 5	Electric lighting plant	N. W. Davis, Engr.	
Ind., Mishawaka	Dec. 8	Electrical supplies	O. Wenderoth, Supv. Archt., Washington, D. C.	
Can., Winnipeg	Dec. 11	Electric induction meters	J. G. Glassco, 54 King St.	
Miss., Natchez	5 p.m., Dec. 17	Lighting streets for five years	Mayor.	
Mo., St. Louis	Dec. 20	Conduit and wiring system	O. Wenderoth, Supv. Arch., Washington, D. C.	
Can., Yorkton	Dec. 22	500 D. H. P. combined unit	M. M. Inglis, Elec. Engr.	
Ind., Mitchell	About Jan. 1	Electric light plant	A. H. Kennedy, Rockport.	
FIRE EQUIPMENT				
O., Toledo	noon, Nov. 22	Lead-covered cable, 5,000 ft.	J. J. Mooney, Dir. Pub. Safety.	
Pa., McKees Rocks	8 p.m., Nov. 24	Standard fire hose, 1,000 ft. 2½-inch	J. P. Pastre, Boro. Clk.	
N. Y., New York	10.30 a.m., Nov. 24	Four motor driven combination chemical & hose wagons	Jos. Johnson, Fire Comr.	
Kan., Wichita	9 a.m., Nov. 24	One motor hook and ladder truck, one motor hose wagon, one tractor	Wm. Sence, City Clk.	
Wis., Fond du Lac	3 p.m., Nov. 25	One motor driven combination chemical & hose wagon	J. F. Hohensee, City Clk.	
Ia., Mason City	Dec. 1	Motor triple combination wagon	T. Conner, Chief.	
BRIDGES				
Ind., Richmond	Nov. 22	Bridge repair work	L. Bowman, Co. Aud.	
Minn., Crookston	10 a.m., Nov. 24	Steel bridge	H. J. Welte, Co. Aud.	
Cal., Sonoma	2 p.m., Nov. 24	Reinforced concrete bridge	Co. Bd. Supervisors.	
Pa., Pittsburgh	10 a.m., Nov. 24	Superstructure of Bloomfield Bridge	Chas. A. Tingley, Act. Dir., D. P. W.	
O., Cincinnati	noon, Nov. 24	Hopple street viaduct	V. T. Price, Dir. Pub. Serv.	
O., Toledo	10 a.m., Nov. 25	Construction of bridges and culverts	Chas. J. Sanzenbacher, Co. Aud.	
Can., Toronto	noon, Nov. 25	Structural steel work for bridge	H. C. Hocken, Mayor.	
N. D., La Moure	2 p.m., Nov. 25	Two bridges, steel	O. C. Temple, Co. Aud.	
O., Toledo	10 a.m., Nov. 25	Three culverts and abutment	C. J. Sanzenbacher, Co. Aud.	
Ont., Berlin	2 p.m., Nov. 25	Concrete girder bridge	Bowman & Connor, Engrs.	
Mass., Boston	noon, Nov. 26	Substructure, approaches and temporary bridge	H. H. Barnes, Ch. Comm.	
O., Dayton	10 a.m., Nov. 28	Embankment for bridge	W. H. Asling, Sec. Co. Comrs.	
O., Cincinnati	noon, Nov. 28	Repairing bridge	A. Reinhardt, Clk. Co. Comr.	
Que., St. Telesphore	Nov. 29	Steel bridge on concrete pillars	J. E. Charlebois, Sec.-Treas. Engrs., Chicago.	
Cal., San Francisco	about Dec. 1	Bascule bridge	A. M. McPherson, Dept. C. Clk.	
Cal., Los Angeles	About Dec. 1	Reinforced concrete bridge	Bd. Comrs.	
Ida., Roberts	noon, Dec. 1	Steel bridge	W. H. Ratcliff, Pres. Bd. Sup.	
Miss., Natchez	Dec. 1	Wooden bridge	G. J. Dold, Co. Clk.	
Neb., Stockville	10 a.m., Dec. 1	Erection of county bridges during 1914	F. J. Kaberna, Co. Aud.	
S. D., Wheeler	2 p.m., Dec. 1	Bridges for 1914	A. Reichert, City Clk.	
Wis., Manitowoc	Dec. 1	Strengthening bridge	W. R. Harrington, Co. Aud.	
O., Warren	1 p.m., Dec. 1	Approaches to bridge	F. C. Werner, Clk.	
O., Zanesville	11 a.m., Dec. 1	Superstructure of bridge	City Engr. Marble	
Mass., Lawrence	Dec. 1	Bridge, steel and cement	W. Gibson, Ch. Bd. Co. Comrs.	
Idaho, Roberts	Dec. 1	Steel bridge	F. H. Binley, Co. Aud.	
S. D., Brookings	2 p.m., Dec. 2	Steel, concrete or pile bridges	H. R. Wood, Co. Aud.	
S. D., Redfield	2 p.m., Dec. 2	Steel pile or concrete bridges	Hedrick & Cochrane, Engrs., Kansas City, Mo.	
Kan., Kansas City	Dec. 3	Bridge	P. Frank, Co. Aud.	
O., Upper Sandusky	Dec. 4	Bridge floor	W. E. Leonard, Co. Aud.	
S. D., Howard	2 p.m., Dec. 9	Steel and concrete bridges for 1914	W. W. Storm, Co. Clk.	
Okla., Oklahoma	10 a.m., Dec. 11	Sixteen steel or concrete bridges	G. B. Merrill, Engr., Portland	
Me., Orrs Island	Dec. 13	Bridge	E. C. Ackerman, Co. Aud.	
S. D., Huron	2 p.m., Dec. 16	Construction and repairing bridges, 1914	J. R. Marker, St. Hwy. Comr.	
O., Bryan	2 p.m., Dec. 16	Culverts and bridges	J. R. Marker, St. Hwy. Comr.	
O., Washington C. H.	2 p.m., Dec. 16	Culverts and bridges	H. G. Green, Clk. Bd. Supv.	
N. Y., White Plains	11 a.m., Dec. 22	Two-leaf bascule lift bridge	Ed. Holden, Co. Aud.	
S. D., Elk Point	noon, Dec. 23	Steel, concrete and wood bridges	W. M. Look, Co. Aud.	
S. D., Desmet	1 p.m., Jan. 6	Steel or reinforced concrete bridges	J. Kingsburg, Co. Aud.	
S. D., Woonsocket	noon, Jan. 6	Steel and concrete bridges for 1914	Larsen, Co. Aud.	
S. D., Clear Lake	2 p.m., Jan. 8	Steel and concrete bridges	C. E. Hanon, Ch. Bd. Co. Com.	
S. D., Pierre	Jan. 14	Steel bridges, 1914		
MISCELLANEOUS				
O., Columbus	noon, Nov. 22	8 twin cylinder motor cycles	B. L. Bargar, Dir. P. Serv.	
N. Y., Buffalo	11 a.m., Nov. 24	Construction of subway under railroad tracks	E. B. Guthrie, Chief Engr.	
O., Dayton	noon, Nov. 24	Collection and removal of garbage for 10 years	R. P. Sebald, Dir. P. S.	
D. C., Washington	Nov. 24	Cable wire, transformers, etc.	Maj. F. C. Boggs, Corps of Engrs.	
N. Y., Buffalo	11 a.m., Nov. 25	Reconstructing jail	A. G. Hinckley, Clk.	
N. J., Jersey City	3 p.m., Nov. 25	Repairs to retaining wall	W. O'Marra, Clk.	
N. J., Newark	3.45 p.m., Nov. 25	Gymnasium apparatus	R. D. Argue, Sec. Bd. Educ.	

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
N. J.	Bloomfield	.....3 p.m., Nov. 25..	Field house and children's shelter in park	A. Church, Sec. Co. Pk. Com.
D. C.	Washington	.....3 p.m., Nov. 28..	Construction U. S. Post Office at Cambridge, Ohio.....	O. Wendroth, Superv. Arch.
N. Y.	New York	.....Nov. 28..	Section 1 of Jerome Ave. subway line.....	Pub. Serv. Comm.
O.	Dayton	.....10 a.m., Nov. 28..	Embankment for bridge	W. A. Aszling, Sec. Co. Comrs.
Mass.	Saugus	.....6 p.m., Nov. 29..	Collection of ashes and garbage.....	Sec. Bd. Health.
N. Y.	New York	.....Dec. 1..	Section 1A, Southern Boulevard subway line.....	Pub. Serv. Comm.
Va.	Portsmouth	.....noon, Dec. 1..	Remodeling Seaboard market house	L. P. Slater, City Clk.
Minn.	Carlton	.....Dec. 2..	Jail	A. R. Normand, Co. Aud.
Miss.	Bay St. Louis	.....7.30 p.m., Dec. 5..	Addition to sea wall	J. F. Cazeneuve, Ch. Bond C.
D. C.	Washington	.....3 p.m., Dec. 19..	Construction of Post Office at Du Quoin, Ill.....	O. Wendroth, Superv. Arch.
D. C.	Washington	.....3 p.m., Dec. 20..	Extension & remodeling customhouse at St. Louis, Mo.....	O. Wendroth, Supv. Arch.
Minn.	Carlton	.....10 a.m., Dec. 22..	Two-story jail and sheriff's residence.....	A. R. Norman, Co. Aud.

STREETS AND ROADS

Montgomery, Ala.—Board of Revenue of Chilton County has authorized the expenditure of \$8,000 to aid in building road through that county.

Selma, Ala.—Ordinance has been passed calling for paving of Landerdale St., from Union Depot to Alabama River, and ordinances have been introduced for paving of Hogan and Hinton alleys in business district of city.

Van Buren, Ark.—Commissioners are considering macadam paving of 30 miles.

Chino, Cal.—Construction of canyon road southwest of Chino through hills into Orange County to the sea is being considered.

Red Bluff, Cal.—Plans are being made for various road improvements.

Richmond, Cal.—People of Richmond are elated over action of Bd. of Spvs. in deciding to purchase \$300,000 worth of state highway bonds to insure construction of state highway down bay shore of Contra Costa into Richmond.

Riverside, Cal.—Bd. of Spvs. for Riverside Co. has voted to increase proposed county good roads bonds from \$1,000,000 to \$1,125,000. Election will be held Dec. 16.

Sacramento, Cal.—The Good Roads Comm. of Chamber of Commerce has submitted petition signed by 1,258 electors, to call special bond election for \$1,800,000 for county roads.

Sacramento, Cal.—Bid of H. D. Millard for graveling two miles of road between Hood and Franklin has been rejected as being excessive. Millard offered to do the work for \$8,640, or \$2.88 per cu. ft.

San Bernardino, Cal.—Highway bond issue of \$1,750,000 will be voted on Dec. 17.

San Francisco, Cal.—Plans are being made for improvement of various streets.

San Jose, Cal.—Bond issue of \$300,000 for building roads is being considered. It is proposed to connect Santa Clara and San Joaquin valleys by means of road through Pacheco Pass to connect Palo Alto and state highway with another stretch of fine road to beautiful Alameda by paving, parking, installing sidewalks and gutters and rebuilding electric railway between San Jose and Santa Clara.

Willows, Cal.—Arrangements have been made between Tehama County Board of Supervisors and D. P. Godwin, Supervisor of California National Forest, to construct connecting link in trans-mountain road between Glenn, Tehama and Humboldt counties.

Woodland, Cal.—Paving of portions of Second and Third Sts. has been ordered.

Hartford, Conn.—Superintendent Peck has presented recommendation for mile of improved pavement to be laid in 1914. Board now has right to lay mile yearly. Recommendations were accepted. They were: Temple St., from Market to Front; Talcott St., from Market to Front; Market St., from Morgan to Pleasant; Windsor St., from Pleasant to Avon, and on Albany Ave. from Chestnut to Vine. The pavement on Albany Ave. will be an extension of the present improved pavement. Cost of improved pavement will be about \$50,000.

Stamford, Conn.—Committee has recommended that matter of having permanent road constructed on Shippin Ave., from Elm St. south to the Manor Hotel, be considered, and that City Engineer and Superintendent of Public Works provide estimates of cost.

New Castle, Del.—The New Castle County Levy Court has decided to purchase Philadelphia turnpike for \$8,000 and convert it into free highway.

Wilmington, Del.—The Levy Court has decided to buy Wilmington and Philadelphia turnpike for \$8,000. It will be converted into free public road. It has been

turnpike from Wilmington to South Claymont.

Jacksonville, Fla.—Bid of Atlantic National Bank, \$88,041.99, the only local bid entered for bonds of the city; of Jacksonville street improvement, issue of 1913, has proved successful and was duly accorded award by Board of Bond Trustees.

Jacksonville, Fla.—City Council has passed necessary ordinance for ratification of sale of street improvement bonds for which Atlantic National Bank was successful bidder.

Orlando, Fla.—Orange County has ratified the \$600,000 bond issue for brick roads.

Orlando, Fla.—Bonds in sum of \$600,000 for hard surfaced roads in county have been carried. The call distinctly stated that \$500,000 is to be expended for brick roads to cover main thoroughfares of county and \$100,000 to be used in clay-ing and otherwise improving less important roads in more sparsely settled sections.

Atlanta, Ga.—Funds necessary to complete paving of Candler St. from Decatur to Morgan St., near East Lake, have been secured and work will now be pushed to rapid completion.

Cordele, Ga.—Bd. of Co. Comrs. and Cordele Chamber of Commerce have entered upon campaign jointly for further improvement of principal highways of Crisp.

Salmon, Ida.—Co. Surv. has made preliminary survey for road to be constructed from Gibbonsville into Bitter Root Valley.

Delavan, Ill.—City Council has decided to pave 23 blocks next spring, at cost of about \$50,000.

Ottawa, Ill.—City Council will shortly let contracts for 170 blocks of paving, at cost of about \$280,000.

Brazil, Ind.—City Council has instructed City Engineer Frank Kattman to prepare plans and specifications for paving street with vitrified brick and sand filler.

Columbus, Ind.—Co. road bonds in sum of \$30,600 have been sold.

Fort Wayne, Ind.—Resolutions have been adopted for improvement of various streets. H. W. Becker is Clk.

Fort Wayne, Ind.—A stone driveway, extending for 38 miles, is the plan of County Commissioners for next spring.

Richmond, Ind.—With purpose of connecting all paved streets of city, Board of Works has ordered City Engineer Charles to prepare specifications for necessary improvements. Streets to be bricked are two blocks on Main, from Fourth St. to bridge; two blocks on North Tenth St., between paved sections, and Main St. east of 22d St., to corporation line.

Warsaw, Ind.—City of Warsaw has just advertised sale of bonds for \$10,000, it being necessary to borrow that amount of money to pay city's share of street improvements now under way.

Cherokee, Ia.—Council is preparing to pave about 14 blocks of business section of town next spring. Material has not yet been decided on.

Council Bluffs, Ia.—Paving of center of West Broadway is being discussed.

Anna, La.—At election held in First Road District of St. Charles Parish 64 votes were cast in favor of proposition to levy a 5-mill tax for 40 years for issuance of \$95,000 bonds for good road purposes.

Amite, La.—Police Jury has passed ordinance calling for election to be held in parish on Dec. 16, at which time proposition of levying good roads bonds to extent of \$700,000 will be submitted to voters.

Napoleonville, La.—Sum of \$1,500 will be appropriated for gravel streets.

Baltimore, Md.—Preparation of specifications for repaving with sheet asphalt of Baltimore St. between Broadway and Paca and Howard St. from Baltimore to Richmond Market will be started at once. They will be laid before Paving Commission before end of month. Immediately after approval of specifications by Paving Commission contracts will be advertised and bids for them will be opened before Board of Awards two weeks later.

Baltimore, Md.—Cecil County Commissioners have decided to build 2.55 miles of macadam road from stone road at St. Augustine to Delaware State line.

Boston, Mass.—City Council has voted in favor of Avery St. widening act, of which estimated cost is \$1,500,000. City will pay about \$470,000.

Haverhill, Mass.—Alderman Hood is making plans for further improvement of Broadway and intends very shortly to introduce order in Municipal Council providing for straightening of road and elimination of curve at junction of Broadway and Bellevue Ave., where repairs were made last year.

Taunton, Mass.—Bond issue of \$8,000 for permanent street improvements will be sold to Taunton people.

Duluth, Minn.—City Council may approve issuance next season of \$50,000 of bonds authorized by last Legislature for opening of Superior St. through Point of Rocks, with view of combining that job with construction of first section of breakwater which would enable city to make fill for proposed big lake shore park.

Helena, Mont.—Co. Surv. has estimated cost of constructing McDonald Pass Rd. at \$12,000. L. R. Ropes is Co. S. r. v.

St. Joseph, Mo.—Ordinance has been passed to provide for paving with concrete the north and south alley between 21st and 22d Sts., from Mulberry St. to the east and west alley first south of Mulberry St.; also for grading of 14th St., from Olive to Sacramento Sts., prescribing a benefit district, and repealing all conflicting ordinances. T. E. Gates is City Clerk.

St. Joseph, Mo.—Members of Board of Public Works have asked City Engineer to prepare plans for opening of Duncan St. from 13th to 14th.

Beatrice, Neb.—City Treas. Spicer has disposed of \$11,000 of intersection paving bonds to state. These bonds draw 5 per cent. interest and were sold at par.

Millville, N. J.—At meeting of Cumberland County Board of Freeholders, plans for proposed new road between Newport and Fortescue have been approved. Road will cost about \$7,000.

Newark, N. J.—Road improvement bonds in sum of \$250,000 have been awarded to John D. Everett & Co. and A. B. Leach & Co., of New York.

Plainfield, N. J.—Ordinance has been passed for laying out and opening of Spooner Ave., from W. 8th St. to Sherman Ave. J. T. McMurray is City Clk.

Rahway, N. J.—Steps to have better sidewalks in certain sections of city have been authorized.

Auburn, N. Y.—On motion of Alderman F. Howard Hosmer, Common Council for the third time adopted resolution providing for paving of Franklin St. from the Five Points to Hunter Brook with vitrified brick.

Binghamton, N. Y.—It is estimated that approximately \$40,000 will be spent in Broome Co. the coming year by State Highway Dept. for maintenance and repair of state highways.

Bronx, N. Y.—Widening of Riverdale Ave. is being discussed.

Canastota, N. Y.—Town Bd. has adopted highway appropriation amounting to \$9,100 for coming year.

New Rochelle, N. Y.—Bids will be received by J. Milleman, Comptroller, at his office in City Hall, corner of Main and Mechanic Sts., New Rochelle, N. Y., until Tuesday morning, Nov. 25, 1913, at 12 o'clock, for purchase of all or any part of \$34,020 registered 4½ per cent. bonds for construction of the Third Ward culvert, Series of 1913, of the City of New Rochelle.

New York City, N. Y.—Widening of Central Park West from 59th St. to 110th St. is under consideration.

Perry, N. Y.—Petitions by residents of West Perry and farmers living west of Silver Lake for macadam road between West Perry and Perry village have been approved by B. A. Phillips, Supt. of Highways. As result, \$3,000 was appropriated by Bd. for building of section of this road during coming year.

Port Chester, N. Y.—Extension of Florence St. is being considered.

Schenectady, N. Y.—Contracts will shortly be let for paving of about a dozen streets.

Schenectady, N. Y.—Ordinances have been adopted authorizing paving of Edward St., from Albany St. to State St.; Cutler St., from Congress St. to Crane St.; Ontario St., from Broadway to Gunderland Ave.; Maplewood Ave., from Christer Ave. to Milton Ave., and Watt St., from Altamont Ave. to Henry St.

Hendersonville, N. C.—If plans of certain citizens do not miscarry, Hendersonville will have one of finest 12-mile scenic highways in the country, leading through Laurel Park, Mountside Park, Indian Cave Park and Mt. Hebron Park.

Bowling Green, O.—Jerry City has awarded to Security Savings Bank & Trust Co., of Toledo, \$2,608 worth of 6 per cent. street improvement bonds.

Dayton, O.—Resolution has been adopted for improvement of Baker St. W. G. Lee is Clk. of Council.

Dayton, O.—Ordinances have been adopted for improvement of various streets.

Ravenna, O.—Frank M. Williams who has been engaged by D. R. Hanna to develop plan for systematic improvement of highways of Portage County has completed his investigations.

Urbana, O.—Paving plans and specifications will shortly be ready for presentation to Council.

Astoria, Ore.—Bond issue of \$400,000 for construction of permanent roads in Clatsop Co. has been carried.

Eugene, Ore.—Sum of \$25,000 will be spent by Co. Comrs. for constructing McKenzie Rd. between Eugene and Sisters.

Portland, Ore.—Election will be held on Dec. 9 for voting on \$50,000 bond issue for municipal street paving and repair plant.

Beaver, Pa.—Ordinances are being considered for paving of Fourth and Buffalo Sts. G. R. Bovard is Secy. of Boro. Council.

Hanover, Pa.—Citizens have voted in favor of \$25,000 loan for purpose of paving streets.

Harrisburg, Pa.—Ordinance has been adopted authorizing opening and grading of Whitehall St., from western side of Prospect St. to Market St. C. A. Miller is Clerk of Common Council.

Seranton, Pa.—Material with which to pave Vine St., Monroe and Quincy Aves. is being considered.

Seranton, Pa.—Bonds have been signed for paving of South Main Ave.

Seranton, Pa.—Council Comm. has voted to report favorably petition for paving Raymond St., Williams St., from Margaret to Brick St., and Wayne Ave. from West Margaret to William St.

York, Pa.—Property owners of Fawn Twp. & Fawn Grove Boro. are petitioning for improving of stretch of road from Fawn Grove to Peach Bottom Twp. line with state aid.

Wilkes-Barre, Pa.—Extension of Butler St. is under consideration.

Providence, R. I.—Resolution has been presented appropriating \$2,000 for rebuilding and macadamizing of Center St., from Broadway to Pawtucket Ave.; also that \$6,000 be appropriated for improvement of Sherman St., Reed St., Shore Rd., Adams Ave. and Cedar Ave., all at RIVERSIDE.

Woonsocket, R. I.—Woonsocket Board of Aldermen has passed in concurrence resolution providing for appropriation of \$10,000 for curbing in city.

Sioux Falls, S. D.—Phillips Ave., from Seventh to Thirteenth Sts., will be narrowed to 51 ft. and sidewalks on each side of street widened 2 ft., according to decision reached by the City Commission.

Harriman, Tenn.—Sale here at par of bonds in sum of \$110,000 gives Roane Co. \$130,000 cash available for construction of pike roads. Part of money will be used at once in repairing existing pikes.

Johnson City, Tenn.—Streets in southwest addition, known as Carter addition, are to be paved. There are seven paving districts in this addition and contract for paving of three of these has been let to Trinidad Paving Co., and contracts for other four will be let later. Owners of Cherokee Heights in western part of city, are making preparations to pave streets in that section of city.

Austin, Tex.—Citizens of Bexar County will vote on proposed bond issue of \$1,000,000 in bonds for public improvements, of which \$550,000 is for improvement of roads.

Belton, Tex.—Ordinance has been adopted for paving of downtown streets and square.

Dallas, Tex.—Widening of Harwood St. from Commerce St. to Pacific Ave. is being planned.

El Paso, Tex.—Resolutions ordering construction of sidewalks along Lot 17, Block 74, Franklin Heights and Lot 12, Block 24, East El Paso have been adopted.

Fort Worth, Tex.—Commission John Grant has formulated plans to bring about revival of street paving on large scale.

Hillsboro, Tex.—City of Hillsboro will vote on Nov. 22 on bond issue of \$25,000 for purpose of paving streets. This is additional bond issue to \$100,000 appropriation, and is to be used for paving of intersections in residence part of town.

Houston, Tex.—Street paving and bridge bonds in sum of \$1,250,000 have been sold.

Midland, Tex.—Bond issue of \$50,000 has been voted for good roads.

San Antonio, Tex.—Bids will be asked for paving of East Commerce St. from Walnut St. to New Braunfels Ave.

San Antonio, Tex.—Definite plans showing what is wanted, and what cost will be for proposed extension of St. Mary's St. south through Commerce and Market Sts., and north from the San Antonio River to Romana at Oakland St., have been submitted to Mayor Brown. Cost of improvement is fixed at \$200,000, including value of land that would be condemned. Of this sum City Council is asked to spend \$75,000.

San Antonio, Tex.—City Clerk Fries has been instructed to advertise for bids for paving of East Commerce St., from the Southern Pacific tracks to New Braunfels Ave.

Taylor, Tex.—Bond issue of \$200,000 for building of good roads is being considered.

Waxahachie, Tex.—At session of County Commissioners good roads bond election was ordered held in Midlothian District Dec. 20. Amount to be voted on is \$35,000. Proposed issue is second for that district, one having already been exhausted in building pikes.

Merrill, Wis.—Town Board of Merrill has decided to build road from J. N. Johnson farm to public highway.

CONTRACTS AWARDED.

Brewton, Ala.—To C. W. Harrison, Poarch, Ala., at \$275 per mile, for grading 5½ miles of road from Pollard to Flomaton.

Hayward, Cal.—By trustees to P. Blake of Los Angeles for paving upper E. St.

Marysville, Cal.—To Mowry & Manns, Sacramento firm, contract by City Council to lay cement sidewalk around Napoleon Square, price to be \$594, or about 7¼ cts. per sq. ft.

Redwood City, Cal.—To Ralsch Impt. Co., San Francisco, at \$32,825, paving of state highway through Redwood City.

San Diego, Cal.—To Fiske Const. Co., at \$82,583, grading of H St., from 25th to Pascoe.

Norwick, Conn.—Contracts for state road work have been awarded by State Highway Commissioner as follows: Brooklyn—A section of native stone macadam road to Frank Arrigoni & Brother, Middletown, for approximately \$9,424.09. Pomfret—A section of bituminous native stone macadam road on the Abington Road to the Middlesex Contracting Co., for approximately \$20,872.

Pensacola, Fla.—Bid of C. M. Ward for the construction, reformation, repair and rebuilding of concrete sidewalks has been accepted. He submitted the following prices: Constructing walks, 10 cts. per sq. ft.; excavating, 25 cts. per cu. yd.; em-

bankments, 25 cts. per cu. yd.; repairs, 10 cts. per sq. ft.

Atlanta, Ga.—To Nichols Contr. Co., contract from town of Decatur to grade and widen Ponce de Leon Ave. from Court House to Peavine Creek.

Alton, Ill.—Contracts for construction of vitrified brick pavement and improvement of alleys have been awarded to C. H. Degenhardt by Board of Local Improvements.

Mattoon, Ill.—By City Council, contract to A. C. Loomis for 2,000 sq. yds. brick paving, on concrete foundation, in alley between Wabash and Charleston Sts., from 14th to 17th St. C. L. James is City Engr.

Hartford City, Ind.—To Albert Clamme Bead road contract for \$9,634. Marion Creek, only other bidder, was \$9,997.

Lebanon, Ind.—By Commissioners of Boone County, to P. Shahan, Lebanon, Ind., for construction of J. C. Grimes Rd., in Sugar Creek Township, and James Smith Rd., in Perry Township, at \$4,600 and \$5,000 respectively. Other bidders were: William McCarthy, Lebanon, Ind., Grimes Rd., \$4,760; Smith Rd., \$5,600; Francis Long, Lebanon, Ind., Smith Rd., \$5,110; Joseph Jackson, Lebanon, Ind., Grimes Rd., \$4,875; Jenkins & Co., Frankfort, Ind., Grimes Rd., \$4,875; Smith Rd., \$5,575.

Logansport, Ind.—By Comrs. of Cass Co., to J. C. O'Connor & Son, Delphi, Ind., for constructing three macadam roads in Jackson Twp., at \$12,300.

Princeton, Ind.—For gravel road in White Twp., to C. W. Stermer, Patoka, Ind., at \$11,476, by Comrs. of Gibson Co.

Wabash, Ind.—By Commissioners of Wabash County, to A. H. Fuye, Bluffton, Ind., for construction of Fleck and Hill Rds., at \$12,000 and \$12,800 respectively.

Marshalltown, Ia.—To Elzy & Carlson, for widening and boulevarding block of South First Ave., for \$1,87½ per sq. yd., on paving, 35 cts. per lin. ft. on curb and 50 cts. per lin. ft. on curb around parkings.

Hutchinson, Kan.—To Wheeler & Keeler, contract to build new sand-clay road in northern Clay Twp.

La Fayette, La.—C. R. Scharf of Bristol, Va., has been awarded \$15,000 paving contract.

Lake Charles, La.—To R. M. Hyams, New Orleans, for Broadway St. paving, from Bilbo to Louisiana Ave., on wood block, at \$2.47 per sq. yd.

Lake Arthur, La.—To Masters & Reinhardt, Seymour, Ind., for concrete sidewalks, curb, gutters and crossings, as follows: 13 cts. per sq. ft., sidewalks; 25 cts. per lin. ft. curb; 21 cts. per lin. ft. gutters, and 17 cts. per sq. ft. crossings.

Mansfield, La.—To C. R. Scharf, of Bristol, Va., for paving at sum of \$45,000.

Baltimore, Md.—Contract for grading Covington St., between Cross and Gittings, under direction of Paving Comm., has been awarded to Williams & Strauss by Bd. of Awards. Bid was 28 cts. per cu. yd., and in aggregate, \$5,712. William Myers is lowest bidder for contract of grading at new Polytechnic Institute grounds.

Rockville, Md.—By Montgomery County Commissioners to Warren F. Brenizer Co., of Washington, contract for piking road from Rockville to Potomac, distance of 5 2-5 miles, at \$42,387.26.

Marquette, Mich.—By Commissioners of Marquette County, to Gustave Fredun, of Norway, Mich., for constructing 16 miles of highway in Powell Township, at \$25,000.

Elizabeth, N. J.—For paving Princeton Road to Samuel Sampson, of Elizabeth, at \$9,708. This work includes 3,650 sq. yds. of brick on concrete and 2,050 lin. ft. new curb. John F. Kenah is City Clk.

Freehold, N. J.—W. H. Fliteroft of Farmingdale has been awarded contract to build Sweetman's lane gravel road. Mr. Fliteroft made bid of \$2,182.50, being one of four bidders. Frank C. Byram of Red Bank and R. Hafeman of Freehold each made bid of \$2,385. Joseph Butcher of Farmingdale made bid of \$2,375. Road is one mile and a quarter in length.

Long Branch, N. J.—By Council for paving of Bridge Ave. to Newton Paving Co. at \$1.49 per sq. yd. It will be paved with cement from West Front to Oakland St.

White Plains, N. Y.—At meeting of Bd. of Trustees contracts were awarded for improving of five streets. Total amount of contracts was \$27,198.50. Vil-

lage has \$10,000 to spend on these streets while abutting property owners will pay balance. At same time contracts were awarded to the amount of \$4,485.50 for the curbing, gutter and sidewalks on these streets. Total cost of this work will be borne by property owners. Contracts were awarded to the following: Ferris Ave. macadam and brick, to David Richards, paving \$5,849.20; sidewalks, curbs and gutter, \$2,392.50. DeKalb Ave., macadam to Ernest L. Erbeck, paving, \$6,540; sidewalks, \$18. Waldo Ave., Central to Wayne Ave., to Alfred Price, paving, \$8,798.30; no sidewalks. South Broadway, Livingston Ave. to Mamaronock Ave., macadam, to Ernest L. Erbeck, paving, \$5,247; sidewalks, curbs and gutters, \$3,976. First St., macadam, to Ernest L. Erbeck, \$964; sidewalks, curbs and gutter, \$1,099.

Portland, Ore.—To Bechill Bros., Portland, at \$11,547, for Glenwood Ave. district grading and concrete curbs and walks.

Eugene, Ore.—Contract for improving Grand Ave. has been let to A. C. Mathews for \$2,561.88.

Media, Pa.—For paving with brick block in Lower Chichester Township and Marcus Hook to Palmer & Snyder, of Wallingford, at about \$98,882.

Spartanburg, S. C.—Under \$100,000 bond issue, recently awarded to Bank of Spartanburg, City Council has given contract for paving 80,000 sq. yds. of street to Noll Construction Co., of Chattanooga, Tenn., at \$1.45 per sq. yd. Bond for \$38,667 was given. Paving is to be of concrete laid on a 4-in. base of standard brand cement, clean sand and gravel. After this composition has set for three days, the wearing surface will then be applied. The wearing surface will be a bituminous composition 2 ins. thick after compression. Following are the square yards of paving allotted to each ward: Ward 1, 15,754; Ward 2, 16,521; Ward 3, 16,598; Ward 4, 21,974; Ward 5, 12,279; Ward 6, 17,088.

Greenville, Tenn.—For macadamizing roads of Green County to Mann Construction Co., of Knoxville, at about \$200,000.

Galveston, Tex.—To Hanson Sons, Inc., Galveston, for shelling, grading, etc., five miles of road on Island, as follows: Mud shell, \$1.85 per cu. yd.; concrete work \$14.95 per sq. yd.; treated lumber, including iron in place, \$74.95.

Wellsburg, W. Va.—To Frank McMahon & Sons, Wellsburg, for paving river road four miles northward from Toronto, O. Estimated cost, \$50,000.

Monroe, Wash.—To Pugh & Arenz, Monroe, Wash., for paving on Lewis St., at \$13,744; other bids were: Cascade Construction Co., Montreal Life Bldg., Seattle, Wash., \$13,770; L. H. George, 836 Shelby St., Seattle, Wash., \$15,305.

Spokane, Wash.—Contract for curbing of Dean Ave., from Lindeke St. to Coachman St., has been let to A. L. Crisman at \$699.

SEWERAGE

Montgomery, Ala.—City Engineer has recommended construction of sanitary sewer system in western section of city to cost about \$10,000.

Chino, Cal.—Proposition is being considered of issuing \$50,000 bonds for sewer system and \$35,000 for street improvements.

Modesto, Cal.—Citizens have voted to issue \$22,500 for storm sewers.

Oakland, Cal.—Resolutions have been adopted for sewerage of various streets.

South Pasadena, Cal.—Bd. of Trustees of South Pasadena have arranged for bond issue voted Oct. 8, dividing issue into two sections. In one issue are sewer bonds, amounting to \$200,000. Bids will be advertised in a few days.

Denver, Colo.—Bills for ordinances providing for special improvement assessments aggregating \$930,000 have been introduced in Council. First, by Comr. of Improvements, provides for assessment of sub-storm sewer in Washington Park District, to cost \$30,000. Second, also by Comr. of Improvements, provides for assessment of taxpayers in West and South side sanitary sewer district for \$900,000 worth of construction work.

Atlanta, Ga.—About \$75,000 worth of bids on sewers have been received by sewer committee on bond commission and awards will be made later by sub-committee appointed to go carefully over different estimates. Bids are on

three sewers, two of them big interceptors which are to be built at Butler St. and at Intrenchment Creek, while other is at Peachtree plant.

Chicago, Ill.—Sub-committee of Sts. and Alleys of City Council is discussing question of constructing system of sewers for downtown district, to cost between \$1,000,000 and \$2,000,000.

Springfield, Ill.—Construction of sewer in Bunn Park is being discussed.

Kingsley, Kan.—Kingsley is investing \$14,000 in starting sewer system discharging into Arkansas River.

Baltimore, Md.—Advisability of asking next Legislature for authority to lay before voters of Baltimore proposition to float additional sewerage loan will be considered by Board of Estimate. It has been estimated by Sewerage Engineers that city that have been built up since original plans of the Sewerage Commission were laid can be sewer. He wants actual cash, however, and therefore, as it is not thought likely that bonds can be sold at par, it is probable that Board of Estimates, if it approves proposition for another loan will ask for loan of \$3,000,000. Parts of the city to be sewer under the additional loan include Forest Park, Walbrook, West Arlington, Woodberry, Hampden, Remington, Homestead, Locust Point, Port Covington, the section of the city west of Poppleton St. and Irvington.

Haverhill, Mass.—There is a big demand in Ward 5 from residents and property owners on upper Washington St. and adjacent streets for new sewer.

Lawrence, Mass.—It has been voted to construct sewer in Tower Hill St.

Flint, Mich.—Plans and specifications for sanitary sewer in Williams St. have been approved. D. E. Newcombe is City Clerk.

St. Joseph, Mo.—Ordinance has been passed to provide for construction of sewers in portion of Sewer District No. 139, located in 15th St., from alley south of 5th Ave. to 3d Ave. T. E. Gates is City Clerk.

St. Joseph, Mo.—Ordinance has been passed to provide for construction of sewers in portion of Sewer District 120, located in 29th St., from the alley north of Farron St. to Clay St.

Chicago, Ill.—Following bids were opened Nov. 6 by Trustees of the Sanitary District of Chicago for construction of North Shore intercepting sewer, Contract No. 1—(a) H. J. McNichols Co., (b) L. K. Sherman Co., (c) Nash-Dowdle Co., (d) Marquette Constr. Co., (e) Nash Bros. Langdon Pearce is Division Engineer:

	(a)	(b)	(c)	(d)	(e)
10,060 lin. ft. sewer, 6x9 ft., concrete.....	\$15.00	\$17.00	\$19.60	\$17.90	\$16.50
10,060 lin. ft. sewer, 6x9 ft., brick.....	17.00	....	22.00	18.85	18.00
10,060 lin. ft. sewer, 6x9 ft., segmental concrete	16.75	....	22.80	21.00	18.00
4,280 lin. ft. sewer, 6x8 ft., concrete.....	14.50	16.25	18.60	16.90	16.00
4,280 lin. ft. sewer, 6x8 ft., brick.....	16.50	....	22.00	17.75	17.00
4,280 lin. ft. sewer, 6x8 ft., segmental concrete	16.25	....	22.00	20.00	17.00
Connection to outfall, concrete (lump sum)...	400.00	1,400.00	750.00	750.00	400.00
Connection to outfall, brick (lump sum).....	400.00	....	800.00	750.00	400.00
6,760 lin. ft. water pipe to remove.....	.50	.70	1.00	.50	.60
6,760 lin. ft. water pipe to relay.....	1.40	.70	1.10	.50	.90
23 manholes, concrete.....	40.00	30.00	40.00	40.00	50.00
23 manholes, brick	40.00	30.00	45.00	40.00	50.00
Connection at Forest Ave., concrete (lump sum)	600.00	560.00	1,300.00	1,160.00	600.00
Connection at Forest Ave., brick (lump sum)...	600.00	....	1,400.00	1,160.00	600.00
Remodeling sewer at Forest Ave. (lump sum)...	1,730.00	2,200.00	180.00	1,100.00	2,000.00
Connection near Oxford Ave., concrete (lump sum)	365.00	350.00	250.00	800.00	350.00
Connection near Oxford Ave., brick (lump sum)	365.00	500.00	300.00	800.00	350.00
Drainage culvert near Kenilworth Ave., concrete (lump sum).....	600.00	330.00	630.00	800.00	600.00
Drainage culvert near Kenilworth Ave., brick (lump sum)	600.00	....	675.00	800.00	800.00
Drainage pipe near 10th St. (lump sum).....	1,360.00	360.00	700.00	1,000.00	800.00
Connection at Winnetka Ave., concrete (lump sum)	225.00	170.00	180.00	250.00	300.00
Connection at Winnetka Ave., brick (lump sum)	225.00	250.00	200.00	250.00	300.00
Connection at Elder Lane, concrete (lump sum)	695.00	250.00	260.00	600.00	400.00
Connection at Elder Lane, brick (lump sum)...	695.00	....	300.00	600.00	400.00
Connection at Cherry St., concrete (lump sum)...	875.00	250.00	450.00	600.00	550.00
Connection at Cherry St., brick (lump sum)...	875.00	....	500.00	600.00	550.00
687,000 lbs. reinforcing steel.....	.05	.04	.04	.05	.05
500 lin. ft. underdrains.....	.40	.15	1.25	.50	.80
5 cu. yds. additional excavation.....	.75	.75	.75	.75	.75
5 cu. yds. additional concrete, Class B.....	8.00	8.00	8.00	8.00	8.00
1 cu. yd. additional brick work.....	9.00	9.00	9.00	9.00	9.00
10 M ft. sheeting.....	15.00	15.00	15.00	15.00	15.00
1 M ft. plank foundations.....	20.00	20.00	20.00	20.00	20.00
1 cu. yds. rock excavation.....	3.00	3.00	3.00	3.00	3.00
Totals for concrete sewer.....	234,000	256,945	297,451	267,622	252,636
Totals for brick sewer.....	262,684	....	336,621	280,821	272,260
Totals for segmental concrete.....	293,445	....	371,675	346,426	306,406

Hastings, Neb.—New sanitary sewer district has been created in southwest section of city, to be known as Dist. No. 68, to consist of 6,700 ft. 8-in. pipe, 9 flush tanks and 21 manholes.

Carson City, Nev.—City Council has ordered laying of sewer on Washington St. from upper end of street to its connection with main sewer at corner of Nevada and Washington Sts.

Hastings, Nev.—City Council will construct 8,000 ft. extension to sewer which drains South Side.

Elizabeth, N. J.—Bids have been received for sewage system and disposal plant at Bonnie Burn Sanatorium, as follows: Fuller, Brown, Taylor Co., \$5,800; Riley Bros., \$5,450; Concrete & Foundation Co., \$11,211; Villa Bros. Const. Co., \$6,139; Stewart Engg. Co., \$6,720; Lincoln, Steele, Fleming Co., \$6,840; Suburban Engg. Co., New York City, \$8,983; Renell Engg. Co., \$6,764; C. H. Winans Co., \$6,786; Chas. Peterson, \$6,925; B. L. Brunworth, \$6,680; New York Sewage & Disposal Co., \$7,999; John A. Taylor, \$10,890; Suburban Const. Co., Philadelphia, \$9,180; Cantrell Const. Co., \$8,752; Young & Hyde, \$8,445.

Rahway, N. J.—Steps to have better sewer facilities in certain sections of city have been authorized.

Albany, N. Y.—Plans are said to be completed by Stephen B. Vernon for intercepting sewer and disposal works to be located on Westerlo Island; estimated cost of intercepting sewer, \$330,000, sewage treatment works, \$310,000, and the cost of the pumping station will probably bring total cost to \$1,000,000.

Goshen, N. Y.—Plans have been prepared by Mr. Clyde Potts of New York City for new sewer system.

Tonawanda, N. Y.—At meeting of Tonawanda Common Council to be held on Nov. 19, a special election will be called for purpose of voting on proposition to spend \$20,000 for sewer system in Highland Ave. district. Election will be held in December.

White Plains, N. Y.—Plans have been submitted for storm water drain which will run through Livingston street, through Schuyler Pl. and connect with drain of New York, Westchester & Boston Ry.

Columbus, O.—Construction of storm sewer from Parsons Ave. to river, and starting near Hosack St., is provided for in ordinance introduced in Council. This will cost about \$300,000, it is estimated.

Toledo, O.—Council, sitting as committee of the whole, will consider plans of R. Winthrop Pratt, consulting engineer of Cleveland, for disposal of sewage and elimination of pollution of Ten-Mile and Swan creeks. Plans proposed by Mr.

Pratt, so he estimates, will cost \$1,655,000 for partial treatment of sewage with annual operating expenses of \$75,000. Those final plans as well as intersecting sewers provided for in plans were figured on basis of ultimate population of 450,000 in 1940.

Toledo, O.—Ordinances have been passed for construction of local sewers No. 1167 and No. 1197. T. M. Babcock is Clerk of Council.

Enterprise, Ore.—Plans have been prepared by C. H. Green, Spokane, Wash., for construction of sewer system. Estimated cost, \$20,000.

Eugene, Ore.—Ordinance for new sewer between Alder and Hilyard Sts. from mill race to trunk sewer has been passed.

Erie, Pa.—Ordinance has been passed providing for building of 24-in. storm water sewer from Fourth and Ash Sts. to the west branch of Garrison Run.

Hanover, Pa.—Citizens have voted in favor of \$30,000 loan for sanitary sewerage system.

Harrisburg, Pa.—Loan for sewer improvement has been voted for.

Oakdale, Pa.—Bond issue of \$18,000 has been voted for sewage system.

York, Pa.—It has been decided to have inlet constructed to storm water sewer at corner of West Princess and Dewey Sts. to relieve present unpleasant conditions on Dewey St. after heavy rains.

Williamsport, Pa.—Two resolutions from Common Council have been approved, one calling for installation of sewer on northeast side of High and Walnut Sts., and other for installation of sewer on northeast corner of Grier St. and Erie Ave.

Sioux Falls, S. D.—Resolutions have been adopted for construction of various sewers.

Sioux Falls, S. D.—Ordinances have been passed for construction of various sanitary sewers. W. C. Leyse is City Auditor.

Chattanooga, Tenn.—Bids will shortly be received by County Commissioners for construction of sewer in Main Ave., to cost about \$25,000.

Plainfield, Wis.—Bids will be received until 3 p. m., Dec. 5, for purchase of bonds for Leola Drainage District.

Superior, Wis.—Plans are said to be under preparation by Edw. Banks, City Engr., for improving and extending sewer system; cost \$50,000.

CONTRACTS AWARDED.

Oceanside, Cal.—For construction of municipal sewer system, to C. D. Vincent, Oakland, at \$26,684.

Pasadena, Cal.—By City, for improvement of Pasadena Ave., to George Wiegand, at following prices: Storm water sewer complete, \$551; grading, 45 cts. per lin. ft.; curb, 24 cts. per lin. ft.; gutter, 14 cts. per sq. ft.; oiling, \$1 per lin. ft. H. Dyer is City Clk.

Chicago, Ill.—Following bids were opened on Nov. 6, by Trustees, Sanitary District of Chicago, for construction of North Shore intercepting sewer, Contract No. 2—(a) H. S. Toyle, (b) John T. Walbridge Eng. Co., (c) Nash-Dowdle Co., (d) Marquette Constr. Co., (e) Nash Bros. Langdon Pearse is Division Engineer:

	(a)	(b)	(c)	(d)	(e)
2,940 lin. ft. sewer, 40x62 in., concrete, open cut	\$8.90	\$11.00	\$16.50	\$8.10	\$12.50
2,940 lin. ft. sewer, 40x62 in., brick, open cut..	....	....	16.50	8.90	15.00
2,940 lin. ft. sewer, 40x62 in., segmental concrete, open cut .....	....	....	20.00	10.00	15.00
3,630 lin. ft. sewer, 40x62 in., concrete, tunnel.	16.75	15.70	20.50	16.15	16.00
3,630 lin. ft. sewer, 40x62 in., brick, tunnel....	....	....	20.50	16.15	17.50
3,630 lin. ft. sewer, 40x62 in., segmental concrete, tunnel .....	....	....	22.50	20.00	18.00
5 manholes, concrete	85.00	60.00	40.00	40.00	50.00
5 manholes, brick .....	....	....	45.00	40.00	50.00
200 lin. ft. special manholes, concrete.....	2.90	10.00	3.25	4.00	15.00
200 lin. ft. special manholes, brick.....	....	....	3.25	4.00	15.00
Connection at Hill Road, brick (lump sum)...	....	....	300.00	500.00	300.00
Connection at Hill Road, concrete (lump sum).	150.00	200.00	275.00	500.00	300.00
235,000 lbs. reinforcing steel.....	.04	....	.04	.05	.05
500 lin. ft. underdrains.....	.15	.70	2.25	.50	.80
5 cu. yds. additional excavation in open cut...	.75	3.75	3.75	3.75	3.75
5 cu. yds. additional excavation in tunnel....	3.00	3.00	3.00	3.00	3.00
5 cu. yds. additional concrete, Class B, in open cut	8.00	8.00	8.00	8.00	8.00
5 cu. yds. additional concrete, Class B, tunnel.	10.00	10.00	10.00	10.00	10.00
5 cu. yds. additional concrete, Class C, tunnel.	9.00	9.00	9.00	9.00	9.00
1 cu. yd. additional brick work in open cut...	9.00	9.00	9.00	9.00	9.00
5 cu. yds. additional brick work in tunnel....	11.00	11.00	11.00	11.00	11.00
5 M ft. sheeting.....	15.00	15.00	15.00	15.00	15.00
1 M ft. plank foundations.....	20.00	20.00	20.00	20.00	20.00
1 cu. yd. rock excavation	3.00	3.00	3.00	3.00	3.00
Totals for concrete sewer.....	88,414	92,397	125,391	84,404	98,996
Totals for brick sewer.....	....	....	125,451	86,766	111,801
Totals for segmental concrete.....	....	....	152,341	115,716	125,356

Chicago, Ill.—To H. J. Nichols, 209 So. LaSalle St., at \$234,000, Contract No. 1, intercepting sewer in open cut from North Shore Channel, Wilmette, along Sheridan road to Cherry St., Winnetka, to be done in concrete; also to Marquette Const. Co., 133 W. Washington St., Chicago, at \$84,404, on concrete, for Contract No. 2, intercepting sewer on Winnetka Ave., from Sheridan road to Church St., thence along line of Winnetka Ave., extended to Hill road.

Genoa, Ill.—By Board of Local Improvements to A. M. Lanyon, Waukegan, Ill., at \$17,896.68, for constructing system of sewers. J. E. Lowman is Engineer, Sycamore, Ill.

Oak Park, Ill.—For sewers by Comrs. of Cook County at Chicago to Wm. Heggie, of Joliet, at \$13,620.

Rockford, Ill.—By Board of Local Improvements to Clayton E. Hole Co., at \$24,794.91, for South Rockford Sewer District. E. Main is City Engr.

Rock Island, Ill.—To P. F. Trenken-schuh, 1431 14½ St., for constructing 620 ft. of 8-in. vitrified pipe sewer in 8½ Ave., from 28th to 29th Sts.

Springfield, Ill.—To R. F. Egan, 601 Washington St., at 79 cts. per lin. ft., on 18-in. pipe sewer in Ash St., Middle to 11th Sts., and 40 cts. for 12-in. inlet pipe and \$25 for each manhole.

Taylorville, Ill.—By City Council, for construction of sanitary sewer to Horace McBride, Carlinville, Ill., at \$6,400.

Dubuque, Ia.—Following are bids for sanitary sewer in Delhi St.: Bid of Hird & O'Hagan, 8-in. tile pipe per lin. ft. 76½ cts., manholes, each \$27.50. Bid of G. L. Kormann, 8-in. tile pipe, 79 cts.; manholes, each \$27.50. Bid of C. B. McNamara & Co., 8-in. tile pipe, 99 cts.; manholes, \$35. Bid of Tibey Bros., 8-in. tile pipe 80 cts.; manholes, \$40.00. Bid of Wilmer Cook, 8-in. tile pipe, 98 cts.; manholes, \$32. Contract has been awarded to Hird & O'Hagan, lowest bidders.

Baltimore, Md.—Guild & Co. was awarded contract for constructing storm water sewer No. 32 for Sewerage Comm. for \$26,805.20.

Swampscott, Mass.—Contracts for excavation of about 900 ft. of water trench in Crossman Ave. and about 800 ft. in Palmer lane have been awarded to H. Scott Tuttle at special meeting of Water and Sewer Commissioners. Contract for excavating of about 300 ft. of water trench in Walger Road was awarded to James T. Lyons. Contract price for work in Crossman Ave. was \$224.50; in Palmer lane, \$201.50, and in Walker Road, \$351.50.

Detroit, Mich.—For constructing sewers by Dept. of Pub. Wks. as follows: Emerson Ave. public sewer to J. A. Mercier, Hammond Bldg., at \$20,358, and for Morrow St. sewer, to Wm. Porath, Detroit, at \$5,903.

Elizabeth, N. J.—To Reilly Brothers of Newark, contract to erect sewage and disposal plant at Bonnie Burn Sanitarium, Scotch Plains, by Freeholders' Sanitarium Committee.

Rahway, N. J.—Contract for Lawrence St. sewer has been awarded to Charles Lentz, Jr.

Trenton, N. J.—By City Commission, contract for building sewer in Laurel

Ave. to Gibbs & Morgan and contract for sewer in Cleveland and Logan Aves. to Antonio Di Lucia.

Vineland, N. J.—By Supt. Bd. of Mgrs. of the New Jersey State Institute for Feeble-Minded Women, for construction of sewage disposal plant in connection with the institution, to Suburban Engg. Co., 15 West 38th St., New York, N. Y., \$6,521. Other bids as follows: McGovern Contr. Co., \$7,285; New York Sewage Disposal Co., 37 East 28th St., New York, N. Y., \$7,851.

Peekskill, N. Y.—For construction of surface sewer on Requa St. to Donovan & Donovan at \$396.

Port Chester, N. Y.—For construction of 600 ft. of sewer in Winfield Ave., to Joseph Dimando, at \$1,120.

Cottage Grove, Ore.—For construction of sewers in various streets in McFarland addition, to Taylor & Higgins, at about \$5,000.

Eugene, Ore.—Contract for sewer between Eighth and Ninth and Van Buren and Monroe has been let to Applewhite & Stein for \$649.50; that between Patterson and Hilyard from Ninth to the mill race, to C. H. Mahoney for \$496.55.

Philadelphia, Pa.—For main sewers as follows: To Rob. Higgins, 4642 Lancaster Ave., for Algard St. sewer at \$30,000, and Hegerman St. sewer at \$15,000; to the Lombardi Constr. Co., 600 Best Bldg., for Rock Run sewer at \$26,000 and the Grays Ave. sewer at \$26,000. These sewers are of brick construction with rubble masonry cradle. Geo. S. Webster is Chief Engr. and Surveyor of Dept. of Pub. Wks.

Waynesboro, Pa.—By Council for construction of certain sewers, to Hydraulic Stone Co.

Seattle, Wash.—To Sylliasen & Sando, Arcade Bldg., Seattle, at \$12,662, for west Harrison St. sewer outlet. To N. Fiorito, 616 26th St., North Seattle, at \$9,377, for Queen Anne Blvd. sewers, and to Atlas Const. Co., Everett, Wash., at \$8,237, for N. & W. 49th St. sewers.

Spokane, Wash.—On recommendation of Commissioner Hayden contract for installation of sewer in Main Ave. from Riverside Court to point 268 ft. west of Monroe St. has been let to Mulligan Bros. & Foster for \$6,149.

WATER SUPPLY

Prairie Grove, Ark.—An improvement district has been formed and petition is being circulated for purpose of issuing \$50,000 in bonds for a waterworks and electric lighting plant. Albert C. Moore, Engr., Joplin, Mo.

Manhattan Beach, Cal.—Special bond election has been called for November 22 to vote bond issue of \$110,000 for installation of municipal water system.

Richmond, Cal.—Board of Directors of Richmond Municipal Water District has directed Manager D. J. Hall to at once take steps to secure options on all reservoir and pumping plant sites which will be needed for construction of proposed Sacramento River supply of water for projected Richmond municipal water system.

South Pasadena, Cal.—City will shortly vote on municipal ownership of local water system.

Denver, Colo.—People of Denver will be given first opportunity to purchase bonds issue for acquisition of municipal water plant.

Washington, D. C.—Council has adopted ordinance for construction of water main on Flower Ave., from Carroll to Davis Aves., and on Park Ave., 250 ft. from Carroll Ave.

Freeport, Ill.—Extension of water mains from Van Brocklin Ave. west on Neese St. has been ordered.

Pittsfield, Ill.—City Council has voted to call election to be held on Dec. 9 for purpose of voting upon proposed bond issue of \$25,000 for construction of modern waterworks system in this city.

Virden, Ill.—Proposition of waterworks system for Virden has just been brought before city council for consideration. The Crescent Const. Co. has placed proposition before city which is different from any before taken under advisement. Company offers to put in system and city must take enough hydrants to produce for company a revenue of \$5,000 a year during period of 30 years, and city shall pay \$45 per hydrant used for fire purposes installed. City schools and municipal buildings are to have free use of water, providing not over 350,000 gals. are used each month, when rate of 10 cts. per 1,000 gals. shall be paid.

Arma, Kan.—Bids will be called for in about 30 days for construction of waterworks and electric lighting plant to cost about \$35,000. A. C. Moore, Engr., Joplin, Mo.

Douglass, Kan.—Bonds have been voted and Albert C. Moore, Engr., Joplin, Mo., is preparing plans for waterworks system. Plant will consist of oil engines, driving generators, filtration plant. Motor-driven pumping machinery, water mains and a 50,000-gal. tower and tank. Bids will be called for about last of December. Dr. N. E. Wilson is Mayor and C. A. Ogg is City Clk.

Greenburg, Kan.—Bonds in sum of \$30,000 have been voted for installation of water works and electric light plant.

Hutchinson, Kan.—Water main out to packing house, 2½ miles east of Main St., which was taken up some 10 years ago, is now to be put down again.

Carlisle, Ky.—Engr. is to be employed to report on plans for water works system here. Bonds for its building carried by large majority.

Hagerstown, Md.—D. H. Whitmer, Philadelphia, is making preliminary surveys for Washington County Water Co.'s new 250,000,000-gallon reservoir, near Hagerstown.

Lynn, Mass.—Bids have been called for completion of Breed's pond dam, and for construction of another dam at Lantern rock.

Peabody, Mass.—Finance Comm. has recommended that town raise \$250,000 for purpose of increasing its water supply by going to Ipswich River. It has been voted also to appropriate \$3,300 for extension of water pipes in Perkins Park.

Virginia, Minn.—According to plans under consideration by Water and Light Commission, the water supply of city is soon to be considerably augmented. Commission plans to build new steel tank which will have capacity of between 700,000 and 800,000 gallons.

Columbus, Mont.—Bond issue of \$30,000 has been voted for water works system.

Bruning, Neb.—Bond issue of \$12,700 has been voted for water works system.

Omaha, Neb.—Fifty new fire hydrants will be purchased by Water Commissioner R. B. Howell at cost of not more than \$30.75 each. They will be placed in various parts of city.

Omaha, Neb.—Engineers sent to Omaha by National Fire Underwriters have advised establishment of 12,000,000-gallon reservoir at Walnut Hill station, of a 6,000,000-gallon reservoir near 38th and Pierce and of a 10,000,000-gallon reservoir near 4th and Valley. Installation of new pumps and boilers, as recommended by the corps of fire insurance engineers, has been started with exception of proposed 12,000,000-gallon pump at the Poppleton valley station, and preliminary estimates for this are being made by engineers for the board.

Morristown, N. J.—Agreeing to comply with requests of Bd. of Aldermen to give Morristown a better water system for fire protection, Morris Aqueduct Co. will spend in neighborhood of \$40,000 to improve conditions.

Rahway, N. J.—Requests for further extensions of city water mains in Lakeside Park section, being developed by Walrath Realty Co. have been made at meeting of Bd. of Water Comrs. by A. Weitz and John Johnson, representing the company. Work will comprise laying of 1,762 ft. of pipe at cost of \$800.

Kingston, N. Y.—Mayor Irwin has submitted the Metcalf & Eddy report on two plans for improving water system of city, as outlined by Allen Hazen and Nicholas Hill, Jr., and approving Hazen plan, to Common Council and stated that he would send in his recommendations in regard to report when special committee on water supply made its report.

Lestershire, N. Y.—Special bonding election for \$15,000 for maintenance and extension of village water mains has been carried by vote of 54 for and 5 against proposition.

Newburgh, N. Y.—Word has been received in Yonkers from Albany that State Conservation Comm. has approved arrangements to obtain enlarged and permanent supply of water from Woodlands Lake, Westchester Co. Two reservoirs will be built. The cost will be about \$3,000,000.

Schenectady, N. Y.—Ordinance has been introduced authorizing completion of water main system in Schenectady. It calls for construction of 36-in. main from Rotterdam pumping station to Campbell Ave., and thence to Turner Ave., to connect with water main already there; for construction of 24-in. main from Gray St., and another from Torrington St. to connect with existing sewer in Cutler St.; construction of 24-in. main from Michigan St. to Brandywine Ave., to connect with new sewer recently constructed, and also 36-in. main from Union St. and Brandywine

Ave. to Apple St. and the Plaza to connect there with existing sewer.

Schenectady, N. Y.—Contract will shortly be let for construction of reservoir on Bevis Heights, which will cost about \$175,000.

Somerset, N. Y.—The adjourned election at Barker Village in town of Somerset on proposition to expend \$30,000 for water supply will be held on November 18th.

Raleigh, N. C.—Comrs. are considering installing electric pump at pumping station of water works.

Columbus, O.—A plan of combine development of water supply system of Columbus, in shape of another storage dam, with flood protection plan, so that flood protection itself could be secured for about \$5,500,000, is being urged.

Elk City, Okla.—Bond issue of \$10,000 has been voted for improvements to water works.

Klamath Falls, Ore.—City Council is considering ordinance for construction of municipal water works, water to be piped from Upper Klamath Lake to Klamath Falls, a distance of about 20 miles.

Harrisburg, Pa.—Water mains 16-in. will be laid on Market and Front Sts.

Oakdale, Pa.—Bond issue of \$27,000 has been voted for water works system.

Charleston, S. C.—Purchase of Goose Creek water plant is being discussed.

Conway, S. C.—The J. B. McCrary Co., of Atlanta, Ga., is said to be preparing preliminary surveys for water works.

Beresford, S. D.—City Council has made settlement for new artesian well which has been drilled to increase supply of local water works system. The well will cost \$2,875.

Jackson, Tenn.—Bond issue of \$25,000 is being considered for making improvement to city water plant.

Rockdale, Tex.—Rockdale water works bonds to amount of \$27,000 have been sold to Detroit Bank & Trust Co., Detroit, Mich. Price was fraction over 97 cts. on the dollar. These bonds were voted for purpose of "buying or building system of water works for City of Rockdale."

Rosenberg, Tex.—Bonds in sum of \$18,500 for proposed water works will probably be sold in January or February.

Spokane, Wash.—Plans are being prepared for enlargement of water system at cost of about \$100,000. A. Lindsay is Water Supt.

Wheeling, W. Va.—Installation of filtration system is being considered.

Niagara Falls, Ont., Can.—Plans are being prepared for water works system at cost of \$10,000.

CONTRACTS AWARDED.

Jacksonville, Fla.—At unanimous recommendation of water committee of Board of Bond Trustees, Board has authorized the purchase of new 12,000,000-gallon pump from Epping-Carpenter Pump Co. of Pittsburgh, represented by R. Bowen, general manager, total price for equipment complete being \$24,490.

Rock Island, Ill.—To P. F. Trenken-schuh, 1431 14½ St., contract for constructing 680 ft. of 6-in. water mains in 8½ Ave., from 28th to 29th Sts.; also for 531 ft. of 6-in. water mains in 23d Ave., from 18th to 19th Aves. W. Treichler is City Engineer.

Paris, Ky.—Contract for building of concrete dam across Stoner Creek at Spear's Mill, to W. Woods & Cain of Paris.

For installation of steam turbine centrifugal pumping unit for water system, to Power Equipment Co., 131 State St., Boston, at \$13,797.

Cornell, Minn.—To Fred Eul, Menasha, at \$21,631, for construction of proposed waterworks system.

Burlington Junction, Mo.—For construction of water system, to Des Moines Bridge & Iron Co., Des Moines, Ia., at \$11,382.

Atlantic City, N. J.—To Florence Iron Co., 400 Chestnut St., Philadelphia, Pa., at \$138,166, contract to furnish 48-in. and 30-in. cast iron pipe and special castings for Meadow Forcing Main.

Newburgh, N. Y.—Contracts have been awarded to Alberger Pump & Condenser Co. for installation of two centrifugal electrically-driven pumps in high pressure station.

Syracuse, N. Y.—To Chas. Miller & Son, of Utica, at \$23.75 per ton for 54 tons c.-i. pipe; also 3,000 lbs. of special castings.

Akron, O.—To Gangl & France Co., Akron, O., at \$18,666, for furnishing pumps, turbines, switchboards, transformers, etc., for new pumping station.

Barberton, O.—For water main extensions to Paul & Henry, of Barberton, at about \$15,000.

Hilliard, Wash.—By City Council, contract for laying new water mains, to Kennedy Const. Co., Portland, Ore., at \$88,000.

LIGHTING AND POWER

Prairie Grove, Ark.—An improvement district has been formed and petition is being circulated for purpose of issuing \$50,000 in bonds for an electric lighting plant and water works plant. A. C. Moore, Engr., Joplin, Mo.

Douglas, Ariz.—Improvement of lighting system is being planned.

Pasadena, Cal.—Contracts for Waverly and Bellevue drive ornamental lighting system have been awarded to K. T. Bennett, by Bd. of City Comrs.

Washington, D. C.—An American consular officer reports that city board of foreign municipality invites bids for supplying machinery and plant required for installation of electric light. Machinery must be of latest and most improved type and worked by naphtha. Electric energy required, about 100 kilowatts. If possible payment in yearly installments, for term of years. All correspondence should be in Russian or German. No. 11,988, Bureau of Manufactures.

Chicago, Ill.—North Clark St., from river to North Ave. will shortly be one of the best lighted streets in city. It has been decided to install ornamental five-cluster lights on both sides of thoroughfare.

Farmer City, Ill.—Managers of municipal electric light plant will purchase within a few months about 24 ornamental lamp posts for cluster lamps.

Peoria, Ill.—Petition is being considered by City Council from residents on Barker Ave. for installation of ornamental lamp standards. They will furnish the standards, provided city maintain the lamps.

Rockford, Ill.—Installation of ornamental lighting system on Seventh St., from Charles St. to Railroad Ave. is being considered by Seventh St. business men.

Warsaw, Ill.—Installation of ornamental street lighting system is being discussed.

Watseka, Ill.—Business men are urging installation of ornamental street-lighting system in business district. Iron standards carrying five-lamp clusters will probably be used.

Muscantine, Ia.—City Council is discussing feasibility of maintaining municipal lighting plant.

Arma, Kan.—Bids will be called for in about 30 days for construction of electric light and water works plant to cost about \$35,000. A. C. Moore, Engr., Joplin, Mo.

Greenburg, Kan.—Bonds in sum of \$30,000 have been voted for installation of electric light and water works plant.

Baltimore, Md.—Plans are being made by Superintendent of Lamps and Lighting for extension to "white way" in residential sections.

Lapeer, Mich.—Establishing of boulevard lighting system is being considered.

Duluth, Minn.—Electrical Inspector J. W. Schneider has completed survey of electric street lighting system and is now engaged in shaping his findings and recommendations for submission to City Council.

Albion, Neb.—Council has decided to equip gas plant so as to assure plenty of gas at all times. To this end Council has voted to install two gas storage tanks and put on service governors.

Rahway, N. J.—Steps to have better light, sewer and sidewalk facilities in certain sections of city were authorized by Common Council.

Buffalo, N. Y.—Committee on lamps and Commissioner of Public Works will submit general plan and estimates of cost for installation of municipal electric light plant.

Brooklyn, N. Y.—Ornamental elevated stations will be constructed at Ft. Hamilton Ave. and 86th St. and Bay Parkway on proposed rapid transit line through New Utrecht Ave., Brooklyn. Public Service Commission for First District has sent to Art Commission designs for these two new stations.

Drake, N. D.—Franchise for electric light is being sought by G. E. Todd, of Minot.

Upper Sandusky, O.—City will vote at special election on question of issuing \$25,000 in bonds for establishment of electric lighting plant.

Sharon, Pa.—Lighting system changes in borough, which would mean elimination of gas lamps are contemplated by Sharon Council.

Pullman, Wash.—City Council will install additional tungsten lamps in downtown districts, including Grand St., Olson St. and Kamicken St. and side streets.

Seattle, Wash.—Resolution has been passed appropriating \$1,250,000 for installation of 5,000-kw. steam auxiliary power plant.

CONTRACTS AWARDED.

Pasadena, Cal.—Contract has been awarded to R. T. Bennett for light posts and wiring at sum of \$4,481. Herman Dyer is City Clerk.

Bloomington, Ill.—Contract for installing of new cluster lights in 600 block on North Main St. has been let to Guy Carlton.

Hagerstown, Md.—Contract for erection of white way on Square and Potomac Sts., between Antietam and Franklin Sts., has been given to Central Garage Co.

Cleveland, O.—Contract for general building construction of municipal electric light plant has been awarded to W. E. McAllister Co., of Cleveland, for \$60,800, to be completed in 100 days.

Cleveland, O.—By Dir. of Pub. Service for miscellaneous steel work for municipal electric light plant to Van Dorn Iron Works Co., of Cleveland.

Portland, Ore.—The Portland Railway, Light & Power Co. has been awarded contract for lighting streets of this city for period of three years beginning Jan. 1, 1914.

Menomonie, Wis.—By City Council to Chippewa Valley Ry. & Ltg. Co., of Eau Claire, contract to light streets of city for four years.

FIRE EQUIPMENT

Lodi, Cal.—Bids for new supplies and equipment for Lodi fire department will be opened at next meeting of City Trustees. An additional 1,000 ft. of new standard hose will be purchased, as well as 200 ft. of 1½-in. hose for use where it is not practicable to take larger size.

Los Angeles, Cal.—Bids will shortly be advertised for five tractors, six motor chasses, one motor aerial truck, two motor city service trucks and two motor combination chemical and hose wagons.

Los Angeles, Cal.—About 630 additional fire alarm boxes may be installed.

Oakland, Cal.—Ordinance has been adopted appropriating \$2,500 for purchase of motor driven chassis for fire department. F. M. Smith is City Clerk.

Stockton, Cal.—Comrs. have been discussing advisability of purchasing two combination automobile chemical and hose wagons and specifications for such apparatus will shortly be presented to City Council. Specifications will call for two machines, each to cost about \$5,500. It is expected that bids will be asked for immediately.

Rome, Ga.—Fire Comm. will shortly advertise for bids for auto chemical pumping engine. Estimated cost, \$8,500.

Brazil, Ind.—Purchase of new automobile fire truck has been authorized.

Great Bend, Kan.—Purchase of 1,000 ft. of hose is being considered.

St. Joseph, Mo.—Ordinance has been passed setting aside and appropriating \$2,000 from Fire Expense Department of the General Fund for purpose of purchasing hose for use of Fire Department. T. E. Gates is City Clerk.

Livingston, Mont.—Purchase of motor engine is under consideration.

Hackensack, N. J.—Appropriation has been authorized for an auto pumping engine.

Rahway, N. J.—Funds are being raised for purchase of motor hose wagon.

South Amboy, N. J.—Purchase of 500 ft. of hose is under consideration.

Ithaca, N. Y.—Present plans materializing, one-half of Ithaca Fire Department will soon be equipped with motor-driven apparatus. There are eight active companies in the department and one has motor-driven apparatus. Three others are planning to supersede the horse-drawn apparatus with that propelled by gasoline engines.

Massillon, O.—Bid of Peerless Motor Car Co., Cleveland, of \$3,000 for patrol wagon, and \$3,500 for fire apparatus, was \$500 lower than all other bids received by board of control, for automobile apparatus for engine house No. 2 and police department. Other bids were: Segrave Co., Columbus, bid \$5,300 for fire apparatus, allowance for old apparatus, \$800, net bid, \$4,500. Martin Carriage Co., York, Pa., net bid for apparatus, \$4,000. Robinson Mfg. Co., St. Louis, net bid for apparatus, \$4,000. White Motor Car Co., Cleveland, net bid for fire apparatus,

\$4,300; for patrol, \$3,950; allowance on old fire apparatus, \$625; allowance on old patrol, \$625; net bid, \$7,000. Contract will be awarded in few days.

Oklahoma City, Okla.—Purchase of motor pumping engine is under consideration.

St. Johns, Ore.—Purchase of motor combination chemical and hose wagon is under consideration.

Allentown, Pa.—Fire Committee has asked for \$110,000 as annual budget, and motorizing of fire department is strongly recommended.

Hanover, Pa.—Citizens have voted in favor of \$6,000 loan for building an engine house.

Harrisburg, Pa.—Loan for purchase of fire apparatus has been favorably voted on.

Reading, Pa.—Motor equipment will be asked for by Riverside Fire Company.

Cherrydale, Va.—Purchase of hook and ladder truck is being considered.

Milwaukee, Wis.—Resolution has been adopted authorizing Comr. of Pub. Works to advertise for bids on fire hose.

CONTRACTS AWARDED.

Chicago, Ill.—For two motor combination chemical and hose wagons, to Harder Auto Truck Co., of Chicago, at \$3,335 each.

Long Branch, N. J.—Robinson Fire Apparatus Manufacturing Co. has been given contract to build two pumps. Their bid was for two piston pumps at \$16,000.

BRIDGES

Red Bluff, Cal.—Delegation of Corning citizens has appeared before Board of Supervisors with petition for bridge across Sacramento River at Squaw Hill, on road from Vina to Corning.

Washington, D. C.—Committee on Bridges has recommended that Congress appropriate \$135,000 for construction of Pennsylvania Ave. bridge across Rock Creek. Also that Congress appropriate amount sufficient to construct suitable viaduct over railroad tracks at Benning Road. That sufficient amount be appropriated to provide for preliminary work of replacing bridge over Klinge Ford. That \$20,000 be appropriated for general construction and repair of the bridge under the supervision of District government.

Bedford, Ind.—Lawrence Co. bridge bonds to amount of \$20,000 have been sold by Comrs. at a premium of \$113 with accrued interest to date. Bonds were bought by E. M. Campbell & Sons Co., Indianapolis, Ind.

Ottawa, Kan.—Board of Commissioners have agreed to build 70-ft. bridge across Appanoose Creek, near Blosser Farm. Township will construct abutments and put roadway in good condition.

Topeka, Kan.—The McKinney bridge, over the Wakarusa, 2½ miles west of Richland, will be built as soon as possible. It is one of the four bridges under consideration of the County Commissioners whose construction is assured. According to the plans and specifications of county engineer, bridge will be 140 ft. long and cost \$2,284.28.

Newark, N. J.—Pending approval of plans and specifications by War Dept., bridge committee of Bds. of Freeholders of Essex and Bergen Cos. has selected the bascule or "Jack-knife" bridge as type to be constructed over Passaic River at Belleville. Although no action toward making tentative award of contract for new structure was taken, it is anticipated that work of erecting substructure will be given to Linde & Griffiths Co., of this city, whose bid of \$62,995 was lowest submitted in competition. Superstructure probably will be built by Great Lakes Dredge & Dock Co. of Chicago, which presented proposal of \$105,980 for this contract. These figures together with 10 per cent. to be paid Strauss Bascule Bridge Co. for engineering fees, will bring cost of bridge to \$185,872.50.

Ellenville, N. Y.—Proposition for new \$10,000 bridge to be placed on Rondout stream at East Wawarsing has been carried at recent election.

Fulton, N. Y.—Registered bonds of city of Fulton amounting to \$18,525.57 have been delivered by City Chamberlain Frederick Summerville to Adams & Co., of New York, the successful bidders. Bonds were issued to meet part of city's share of cost of Broadway bridge.

Akron, O.—Plans are being considered for proposed Tuscarawas Ave. viaduct. It will be 1,570 ft. in length, with its approaches, extending from Bolivar road, on the west, to Van Buren Ave. on the east.

Harrisburg, Pa.—Loan for bridges has been favorably voted on.

Harrisburg, Pa.—The Water Supply Comm. has approved applications for permission to build 11 bridges, from Comrs. of York, Indiana, Berks, Delaware, Mercer, Westmoreland and Lancaster counties, and charter of Lansdowne Park Water Co. of South Abingdon Twp., Lackawanna Co.

Johnstown, Pa.—Ordinance has been adopted providing for \$50,000 for the Horner St. bridge.

Austin, Tex.—Citizens of Bexar County will vote on \$200,000 bond issue for bridges.

Fort Worth, Tex.—City and Co. Comrs. are considering method of constructing new 9-mile bridge and kind of material to be used therein. City officials made request of Co. Comrs. that road be changed to intersect river at point most suitable for building bridge at 9-mile crossing, which would throw it farther to north.

Houston, Tex.—Bridge and street paving bonds in sum of \$1,250,000 have been sold.

Eau Claire, Wis.—Bond issue of \$10,000 for construction of bridge in this city has been authorized by Common Council.

CONTRACTS AWARDED.

Red Bluff, Cal.—By Supervisors, contract for construction of wooden bridge over Reed Creek to Bone & Lanning of this city for \$1,048. Work will commence immediately.

Willows, Cal.—Three bridge contracts have been let by County Supervisors. The Newville bridge was let to M. Concannon, of San Francisco, for \$16,197. The Shelton bridge at Newville was let to Concannon for \$7,791. The Walker Creek bridge was let to the Ross Construction Co. for \$6,706.

Rensselaer, Ind.—By Bd. of Comrs. of Jasper Co., for erection of various bridges in county, to the Rochester Bridge Co. Rochester, Ind., two bridges; the East St. Louis Bridge Co., East St. Louis, Ill., two bridges; B. D. McColly, Rensselaer, Ind., two bridges, and John Rush, Rensselaer, one bridge.

Eldora, Ia.—To Modern Structural Bridge Co., Waukesha, Wis., at \$38,000, for 960-ft. steel bridge over river, by Hardin Co. Spvs.

Ablene, Kan.—Two cement bridges will be built over Smoky Hill River, and the Canton Bridge Co. has been given contract at \$28,170.

Enterprise, Kan.—Co. Comrs. have let contracts to Canton Bridge Co. of Canton O., for construction of two concrete bridges across Smoky. One is to cross river just east of Sand Springs pumping station and is to cost \$14,120. Other will be 3 miles east and 1 mile south of Abilene, costing \$14,150.

Vicksburg, Miss.—To Thomas Zollinger, at \$6,998, for reinforced concrete arch at South and First North Sts.

Hinsdale, N. H.—For erection of steel bridge over Ashuelot River, at Depot St., to United Construction Co., Albany, N. Y., at approximately \$15,000. Fred L. Latham is Town Supervisor.

Jersey City, N. J.—The Fagan Iron Works Co. has been awarded contract for repairing Mercer St. viaduct, that firm being lowest bidder.

Columbus, O.—Contract for construction of concrete box culvert over the Bliss ditch in E. Main St. by Franklin County Commissioners to Cook & Cook at \$1,288.20.

Dayton, O.—By Montgomery County Emergency Commission for construction of Boomershire bridge in Jackson Twp. to Seymour Rennick of Findlay, O., at \$12,484.

Washington, Va.—By Circuit Court of Rappahannock County, for erection of 112-ft. steel bridge in county, to Virginia Bridge & Iron Co., Roanoke, Va., at \$2,220. Other bidders were: The Luten Bridge Co. and the Roanoke Bridge Co.

Nelson, B. C.—By Dept. of Pub. Works, Victoria, B. C., for erection of Taghuan Bridge, Nelson, to Canadian North-West